78-219

No. .....

Supreme Court, U. S.
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IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1978

STATE OF MISSOURI, ex rel. UTILITY CONSUMERS COUNCIL OF MISSOURI, INC.,
Petitioner-Relator,

v.

PUBLIC SERVICE COMMISSION OF MISSOURI and UNION ELECTRIC COMPANY,
Co-Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE MISSOURI COURT OF APPEALS

SAMUEL H. LIBERMAN
Washington University
School of Law
St. Louis, Missouri 63130

DAVID J. NEWBURGER
Washington University
School of Law
St. Louis, Missouri 63130
Attorneys for Petitioner

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St. Louis Law Printing Co., Inc., 812 Olive Street 63101 314-231-4477

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v.

PUBLIC SERVICE COMMISSION OF MISSOURI and UNION ELECTRIC COMPANY,
Co-Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE MISSOURI COURT OF APPEALS

A writ of certiorari is respectfully sought to review the order of the Missouri Court of Appeals in the above-entitled case.

OPINIONS BELOW

The opinion of the Court of Appeals (App.C, *infra*, pp. 3a-20a) is reported at 562 S.W.2d 688. The opinion of the Circuit Court (App.D, *infra*, pp. 21a-36a) is not officially reported. The Report and Order of the Public Service Commission (App.E, *infra*, pp. 37a-72a) is not officially reported.

JURISDICTION

The judgment of the Missouri Court of Appeals was entered on January 10, 1978. (App.C, *infra*, pp. 3a-20a). A timely petition for rehearing and/or an order to transfer the case to the Supreme Court of Missouri was denied on February 14, 1978. (App.B, *infra*, p.2a). An application in the Supreme Court of Missouri to order that the case be transferred there was denied on April 10, 1978. (App.A, *infra*, p. 1a). The final mandate of the Court of Appeals was entered on April 12, 1978. By order of July 10, 1978, Justice Blackmun extended the time for filing a petition for a writ of certiorari to and including August 8, 1978. The jurisdiction of this Court is invoked under 28 U.S.C.A. § 1254(1).

QUESTION PRESENTED

Whether federal preemption of radiological safety issues precluded the Missouri Public Service Commission (hereafter the "Commission") from assessing the costs associated with the unique risks of nuclear power when comparing the costs of nuclear and fossil-fired electric generating plants.

STATEMENT

The question presented here arises out of a decision by the Commission to grant an application of the Union Electric Company (hereafter the "Company") for permission to construct a nuclear power plant in Callaway County, Missouri.

Petitioner-relator Utility Consumers Council of Missouri, Inc. (hereafter "UCCM") is a nonprofit corporation organized under the laws of the State of Missouri to represent the interests of residential utility consumers in educational programs and

litigations with utilities. Along with others, UCCM intervened in the Commission proceedings in opposition to the application for authority to construct the proposed plant.

In presenting its case, UCCM's first witness was Dr. Henry W. Kendall. Missouri Public Service Commission Transcript, Case No. 18,117, at 713 (App.F, *infra*, pages 73a-74a) (hereafter references are "PSC Tr. . . ."). Admission of Dr. Kendall's testimony was moved at PSC Tr. 719 (page 74a *infra*). The Company's counsel moved that the testimony be struck on grounds that the subject of nuclear safety had been preempted. PSC Tr. 744 (pages 74a-75a *infra*). The Chairman of the Commission ruled that the motion to strike would be "taken with the case." PSC Tr. 745 (page 75a *infra*). The Company then informed the Commission that it had "a standing objection throughout this proceeding to the receipt by this Commission of nuclear safety material and the consideration of it." PSC Tr. 745 (pages 75a-76a *infra*). The Commission did not rule on the Company's objection to nuclear safety evidence until issuing its final Report and Order.

On March 15, 1975, the Commission entered that Report and Order, granting the Company's application. (Pages 37a-72a *infra*.) Notwithstanding UCCM's arguments to the contrary, the Commission concluded (1) that the proposed nuclear plant was the most economical way to supply the Company's customers increased demand for electricity (page 63a *infra*), (2) that the issue of radiological health and safety was within the exclusive jurisdiction of the federal government (pages 68a-69a *infra*) but (3) in any event, that nuclear power plants are safe (page 67a *infra*).

Obtaining review of the Commission's Report and Order in the St. Louis County Circuit Court, UCCM contended that the Commission erred by failing to consider the economic consequences associated with the unique risks of nuclear power. Therefore, UCCM argued, the Commission's decision was inadequate because it compared *less than all* the costs associated with nuclear

power plants with *all* the costs associated with fossil fuel generation.

On January 7, 1976, the Circuit Court affirmed the Commission. That Court held that the Commission was not preempted from considering the economic impact of the risk of a possible nuclear accident (Page 30a *infra.*) However, the Court then purported to compare all the costs of nuclear power plants (including those associated with the unique risks of nuclear power) with the costs of fossil-fired plants, and concluded that the record demonstrated that nuclear power plants were still the more economical. (Pages 30a-33a *infra.*)

UCCM appealed to the Missouri Court of Appeals, St. Louis District. There, it agreed with the Circuit Court that the Commission was not preempted from considering the economic question presented. It argued, however, that having decided that the Commission was obligated to take account of these economic consequences when making the nuclear/fossil cost comparison, the Circuit Court was obligated to remand the case to the Commission in order to resolve the remaining factual issue.

The Court of Appeals decision, filed January 10, 1978, did not answer that question. Rather, it held that (1) the record had sufficient evidence for decision, (2) the Commission evaluated the safety of nuclear power, (3) "the economic impact of a possible nuclear accident [is] insignificant" (page 19a *infra*), (4) nuclear power safety is a matter of great debate, and (5) federal law preempted the state from considering the safety of the proposed plant. (Pages 19a-20a *infra.*)

Contending that the Court of Appeals failed to reach the question presented on appeal and did so fail because it erroneously concluded it was preempted by federal law, UCCM moved that the Court of Appeals rehear the case or transfer it to the Missouri Supreme Court. That motion was denied February 14, 1978. (Page 2a *infra.*) Subsequently, UCCM moved that the Supreme Court of Missouri order the case transferred to it, and that motion was denied April 10, 1978. (Page 1a *infra.*)

REASONS FOR GRANTING THE PETITION

The question raised in this case—that is, the scope of federal preemption of matters related to nuclear power plants—presents the basic issue of the nature of the division of authority between federal and state agencies for regulating electric utility plant construction programs.

Even assuming that *Northern States Power Co. v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S. 1035 (1972) (mem.), continues to reflect accurately preemption by the federal government of radiological safety issues, it is not clear whether questions salient to the economic regulation of electric utility construction programs are likewise preempted. While no reason for such preemption is suggested, that preemption is exactly what the Commission and the Missouri Court of Appeals found in this case.

Their reasoning seems to have been this. The federal government—through the Nuclear Regulatory Commission (hereafter the "NRC")—bears responsibility for ensuring that proper standards are applied to guarantee that nuclear power plants are safe. Therefore, the total cost of a nuclear power plant need not include an estimate of the loss that the utility would experience if there is a nuclear accident since the NRC has protected us against such accidents. That logic fails. Risks of major and minor accidents or other problems do exist, and any such would increase the relative cost of a nuclear plant. For example, utilities may incur additional costs associated with additional safety equipment or procedures required after planning has been completed. They may experience additional expenses resulting from the useful life of the plant being less than expected, or from the NRC limiting operations to less than full capacity, or from minor technical problems requiring the plant to be taken down repeatedly for unscheduled maintenance. And, they would in-

cur additional costs if the plant becomes unuseable as a result of an accident in the reactor vessel or elsewhere.

If preemption of economic regulation does not exist, the Commission would be responsible for ascertaining the probability that additional costs will arise because of the unique risks of nuclear power. Based on that, it will be able to estimate the degree to which those costs increase the overall cost of a nuclear plant. Taking account of the probability and degree of these costs, the Commission can compare the cost of nuclear and fossil-fired plants of comparable capacity.*

Finding that the Commission was not preempted from assessing the costs associated with the unique risks of nuclear power is of fundamental importance to making effective the federal/state partnership in regulating electric utility generating capacity construction. Even for nuclear power plants, the federal government does not base any decision on whether a proposed plant is the most economical for the utility's ratepayers and shareholders. Regulation under the Atomic Energy Act, as amended, is directed toward protecting the "health and safety of the public." 42 U.S.C.A. § 2012(d). Regulation under the National Environmental Protection Act does seem to require a cost-benefit analysis comparing building nuclear power plants with constructing different types of plants or inducing conservation to eliminate the growth in demand for electricity. 42 U.S.C.A. § 4332(b) (1977). *See also* W. Rodgers, *Environmental Law*, 721-22 (1977). However, that analysis is undertaken so that the NRC may discover whether a proposed nuclear plant is the least environmentally deleterious, practicable alternative—not whether

* Admittedly, estimating both the possibility of accidents and the loss they might produce requires some exercise of judgment by informed decisionmakers in order to fill gaps in the "hard" data available. However, in the area of nuclear power, relying partially on estimations is often necessary. Further, including such estimations in the cost of nuclear power plants makes economic regulation of utility construction programs more effective than it would be were commissions required to ignore such costs altogether.

such a plant is the most economical. 42 U.S.C.A. § 4331(b) (1977).

Thus, it is the state utility commissions that are left with the responsibility for ascertaining whether proposed nuclear power plant construction is the most economical. And, if they are preempted from assessing the costs associated with the unique risks of nuclear power, they would be deprived of the authority to take account of the total cost of nuclear power plants when comparing them with the cost of alternative generating facilities. Such a situation would create a void in the Nation's economic regulation of electric utility construction programs and might create an illogical bias in favor of nuclear power for electricity generation.

In light of other decisions of this Court, the Commission and the Missouri Court of Appeals misinterpreted the *Northern States Power* case by finding that the Commission was not to assess the costs associated with the unique risks of nuclear power. Further, review of a line of cases decided by the federal and state courts and state utility commission manifests considerable nationwide confusion over the limits of *Northern States Power*. And, given Congressional reorganization of the federal energy bureaucracy, the rationale upon which the Eighth Circuit Court of Appeals based that decision no longer exists, and that decision now requires review.

1. Assuming that the *Northern States Power* case remains a fair statement of the law, then the question here is not *whether* there is preemption, but the *extent* of that preemption. This Court has consistently recognized that while one area of regulation may be preempted (nuclear safety regulation, in this case) another related area (economic regulation of electric utility construction programs) may not. *Ray v. Atlantic Richfield Co.*, 98 S.Ct. 988 (1978); *Colorado Anti-Discrimination Commission v. Continental Air Lines, Inc.*, 372 U.S. 714 (1963); *Huron*

Portland Cement Co. v. Detroit, 362 U.S. 440 (1960); *Kelly v. Washington*, 302 U.S. 1 (1937).

Thus, the Commission and the Missouri Court of Appeals erred in rejecting UCCM's contention on the grounds that *Northern States Power Co. v. Minnesota, supra*, settled the question. Rather, they should have embarked upon the line of inquiry established in *Florida Lime & Avacado Growers, Inc. v. Paul*, 373 U.S. 132 (1963), to determine whether the Commission's assessing the costs associated with the unique risks of nuclear power in the course of exercising its economic regulation of electric utility construction programs was preempted. The answer to that must be "No" unless "the nature of [federal nuclear safety regulation] permits no other conclusion . . . or . . . the Congress has unmistakenly so ordained." 373 U.S. at 142. *See also Jones v. Rath Packing Co.*, 430 U.S. 519 (1977); *DeCanas v. Bica*, 424 U.S. 351 (1976).

UCCM submits that if this Court grants certiorari and applies existing standards, it would find that the Commission's inquiry is not preempted. Indeed, this Court's most recent pronouncement in the area supports that conclusion. *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 98 S.Ct. 1197 (1978). There, Mr. Justice Rehnquist clearly indicated that the state and federal legislatures have shared responsibility for developing national policy with respect to nuclear power utilization. 98 S.Ct. at 1219. For example, he observed that state utility commissions retain the initial authority to decide the need for plant construction. 98 S.Ct. at 1215. Likewise, UCCM submits that they retain the authority to apply economic regulation to nuclear power plant construction proposals and, to do so effectively, they must have the authority to assess the costs associated with the unique risks of nuclear power. To straighten out the Missouri Court of Appeals erroneous application of the law as settled by this Court, the Court should review the case.

2. As indicated by the cases summarized below, a growing body of decisions in state and federal courts and state utility commissions have considered the question of the scope of preemption and produced confusing, conflicting results. This Court should grant the petition in order to resolve the confusion and conflicts in this area.

The review of varying court and commission decisions begins with the Missouri Court of Appeals decision in this case. The Court held that federal preemption of the area precluded the Commission from including the costs associated with the unique risks of nuclear power when the Commission evaluates the comparative costs of nuclear and fossil-fired power plants. In addition, consider some other cases.

Public Service Co. of New Hampshire v. U.S. N.R.C., 2 CCH Nuclear Regulation Reporter ¶ 20,086, at 16,515, 16,521 (1st Cir. 1978). The United States Court of Appeals for the First Circuit rejected a utility's contention that the NRC had unlawfully preempted the state utility commission's exercise of its authority to set the routes for transmission lines from a nuclear plant. The court indicated that the state did have authority over transmission lines from nuclear power plants but ruled that, for purposes of the facts of the case at least, the NRC had co-existing authority.

Iowa Student Public Interest Research Group, 5 CCH Atomic Energy Law Reporter ¶ 16,624 (Iowa State Commerce Comm'n 1973). The commission ruled that it was preempted by federal law from considering whether a proposed nuclear power plant would produce unreasonable service for the customers of the utility involved.

In re Amending the Commission's Rules and Regulations to Protect the Public from Nuclear Hazards, 2 CCH Nuclear Regulation Reporter ¶ 20,054, at 16,341 (Mich. Pub. Serv. Comm'n. 1977). The commission ruled that the state had authority to

develop evacuation plans, protect the population in the event of a nuclear power plant accident, and educate the public with respect thereto. But it then held that other state health and welfare agencies were better equipped for such an activity than the commission, and that generally the commission was pre-empted from regulating in the field of radiation control.

Covert Township Assessor v. State Tax Commission, 77 Mich. App. 626, 259 N.W.2d 164, 168 (Mich. 1977):

> "The Federal preemption doctrine does not bar all state regulation and control of nuclear facilities. For example, the Palisades facility is subject to permit and monitoring requirements of the Michigan Water Resources Commission regarding the heat and chlorine contents of liquid discharges. Moreover, as this Court recognized in *Marshall v. Consumers Power Co., infra*, state jurisdiction is not pre-empted regarding nonradiological matters incident to the construction and operation of a nuclear plant."

The court ruled that for purposes of exempting certain pollution control facilities from state taxation, state officials may examine and, if appropriate, certify that effluent from a nuclear power plant meets the state's requirements for tax exempt status.

Marshall v. Consumers Power Co., 65 Mich. App. 237, 237 N.W.2d 266 (1975). The court ruled that preemption of some aspects of nuclear power did not preclude the states from continuing to have an interest in other, related areas. Thus, the court held that it was not preempted from considering allegations of damage to property caused by cooling towers of a proposed nuclear power plant.

State v. Jersey Central Power & Light Co., 69 N.J. 102, 351 A.2d 337 (1976). The New Jersey Supreme Court ruled that a state action against the utility for allegedly releasing cold water from a nuclear power plant into a waterway and thereby killing

large quantities of fish could not lie because of federal pre-emption.

Public Interest Research Group of New Jersey, Inc. v. State, 152 N.J.Super. 191, 377 A.2d 915 (App.Div.1977). In a judicial review proceeding of administrative issuance of a siting permit for a nuclear power plant, the Court rejected appellants' contention that the record lacked evidence to support a conclusion that radiological wastes could be disposed of safely. The Court ruled that it was preempted from requiring the agency even to evaluate that question.

Van Dissel v. Jersey Central Power & Light Co., 152 N.J. Super. 391, 377 A.2d 1244 (Law Div.1977). On a motion to dismiss a private claim for damages, the Court ruled that the state was preempted from awarding damages to plaintiff's property resulting from the operation of a nuclear power plant. The Court also ruled, however, that a cause of action was stated where the plaintiff alleged that a diminution in the value of his property constituted an inverse condemnation of the property.

Re Jersey Central Power & Light Co., 61 Pub. Util. Rep. 3d 395 (N.J. Bd. of Pub. Util. Comm'rs 1965). The Commissioners refused to pass "on the possibility of pre-emption vel non as to the waste discharge and monitoring thereof" because the New Jersey regulation of the area was identical to the AEC's. 61 Pub.Utils. Rep. at 400.

Marbert v. Portland General Electric Co., 277 Or. 447, 561 P.2d 154 (1977). Where a utility was supporting the decision of a state administrative agency that had authority over electric generating plant sites, including sites for nuclear facilities, and the court was disposed to overturn the agency's ruling, the court indicated without explanation that it was persuaded that the subject state regulatory siting scheme was not pre-empted *per se* by federal nuclear regulation.

Pennsylvania Public Utility Commission v. Philadelphia Electric Co., 91 Pub. Util Rep. 3d 321 (Penn. Pub. Util. Comm'n 1971). The commission stated that responsibility for nuclear safety was beyond its scope of jurisdiction.

3. The discussion to this point has operated on the assumption, for purposes of argument, that Congress has not altered the fundamental basis upon which the decision in *Northern States Power* rests. However, that is not the case, for the decision in *Northern States Power* was entered before enactment of the Energy Reorganization Act, which abolished the Atomic Energy Commission (hereafter the "AEC") and divided its authority between two agencies—the NRC and the Energy Research and Development Administration (hereafter the "ERDA"). Pub.L.No. 93-938, 88 Stat. 1237 (1974).

Before that reorganization, the AEC was responsible for both regulating nuclear power to ensure public health and safety and for promoting the orderly development of the nuclear power industry. Thus, the basic policy justifying preemption of nuclear power regulation was to ensure that the federal interest in both regulating *and* promoting nuclear power would be obtained. As Judge Matthes stated in *Northern States Power*:

> "Congressional objectives expressed in the 1954 Act [the Act that first permitted private commercial involvement in nuclear power] evince a legislative design to foster and encourage the development, use and control of atomic energy so as to make the maximum contribution to the general welfare and to increase the standard of living. 42 U.S.C. §§2011, 2012. However, these objectives were to be effectuated 'to the maximum extent consistent with the common defense and security and with the health and safety of the public.' 42 U.S.C. §2013. Thus, through direction of the licensing scheme for nuclear reactors, Congress vested the AEC with the authority to resolve the proper balance between desired industrial progress and adequate health and safety standards." 447 F.2d at 1153-54.

The Congress's energy bureaucracy reorganization in 1974 placed responsibility for regulating to protect the public health and safety in the NRC and for promoting nuclear power in the ERDA. The scheme of licensure regulation for nuclear power plants no longer has an underlying policy goal of promotion. Therefore, the major policy basis for inferring that Congress intended to preempt regulation of nuclear safety no longer exists. Under such circumstances, the time is appropriate for this Court to review the assumption that the federal government has exclusive authority for nuclear safety regulation.

Notwithstanding all of the foregoing, the co-respondents here may argue that this Court should not grant the petition for writ of certiorari because the decision below was essentially evidentiary in nature. In support of such an argument one would observe that the Missouri Court of Appeals did say in the course of its decision that "The evidence indicated that the economic impact of the risk of a possible nuclear accident was insignificant." (Page 19a *infra.*)

UCCM contends that that was a cumulative statement of the Court of Appeals used to bolster its basic holding that the area was preempted. The following support that view.

(1) The statement was made almost simultaneously with the assertion that the question of nuclear safety is a matter of great national debate, thus indicating a recognition by the Court that nuclear power's significance—including its economic significance —is enormous. (2) The Court specifically ruled that there is federal preemption of the area. (3) To conclude that the Court of Appeals itself decided that the costs associated with the unique risks of nuclear power were insignificant when the Commission had been required to decide that question and did not, would be concluding that the Court acted contrary to

Missouri law. Missouri law restricts the reviewing court to affirming or reversing and remanding to the Commission. The Missouri courts may not decide unresolved factual issues *de novo*. *State* ex rel. *Chicago Great Western Ry. Co. v. P.S.C.*, 51 S.W.2d 73, 76 (Mo. 1932), *cert. denied*, 287 U.S. 641 (1932); *State* ex rel. *Doniphan Telephone Co. v. P.S.C.*, 377 S.W.2d 469, 472-73 (Mo.App.1964). Therefore, to the extent that the Court of Appeals decision may be ambiguous, the ambiguity must be resolved with the result that the Court of Appeals did rest its decision on a conclusion of federal preemption of the question presented. Otherwise, one must surmise that the Court's decision was contrary to law.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

SAMUEL H. LIBERMAN
Washington University
School of Law
St. Louis, Missouri 63130
314/889-6469

DAVID J. NEWBURGER
Washington University
School of Law
St. Louis, Missouri 63130
314/889-6437
Attorneys for Petitioner

Law Student Assistance:
MARY E. ANSBRO

August 8, 1978

APPENDIX

APPENDIX A

The Supreme Court of Missouri

No. 60641

State ex rel. Utility Consumers Council of Missouri, Inc.,
Relator-Appellant,

v.

Public Service Commission of Missouri, et al.,
Respondents.

April 10, 1978

TRANSFER

Denial of Application for Transfer

Now at this day, on consideration of appellant's Application to transfer the above entitled cause from the St. Louis District Court of Appeals, it is ordered that said application be, and the same is hereby denied.

State of Missouri—Sct.

I, Thomas F. Simon, Clerk of the Supreme Court of the State of Missouri, certify that the foregoing is a full, true and complete transcript of the judgment of said Supreme Court, entered of record at the January Session thereof, 1978, and on the 10th day of April 1978, in the above entitled cause.

Given under my hand and seal of said Court, at the City of Jefferson City, this 10th day of April 1978.

Thomas F. Simon, Clerk
By Janice B. Hanson, D. C.

APPENDIX B

Missouri Court of Appeals
St. Louis District

No. 37802

State ex rel. Utility Consumers Council of Missouri, Inc.,
Relator-Appellant,

v.

Public Service Commission of Missouri and
Union Electric Company,
Co-Respondents.

February 14, 1978

Denial of Motion to Rehear and/or Transfer

* * * * * * *

The following motions for rehearing and/or transfer have all been denied as of today, February 14, 1978:

* * * * * * *

3. No. 37802 State ex rel. Utility Consumers Council of Missouri, Inc. v. Public Service Commission of Missouri and Union Electric Company

* * * * * * *

APPENDIX C

Missouri Court of Appeals
St. Louis District
Division Two

No. 37802

State ex rel. Utility Consumers Council of Missouri, Inc.,
Relator-Appellant,

v.

Public Service Commission of Missouri and
Union Electric Company,
Co-Respondents.

January 10, 1978

Appeal from the Circuit Court for St. Louis County

Hon. Robert Lee Cambell, Judge.

Per Curiam

Appellant Utility Consumers Council of Missouri, Inc. (hereinafter "UCCM")[1] filed in the circuit court its petition for review of a Report and Order by the Missouri Public Service Commission (hereinafter "Commission") which granted Union Electric Company (hereinafter "Company") a certificate of convenience and necessity pursuant to Sec. 393.170(3), RSMo. 1969.[2] The circuit court upheld the findings and order of the Commission. UCCM appealed to this court. We, too, affirm.

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[1] UCCM is a not-for-profit corporation organized under the laws of the State of Missouri.

[2] All statutory citations refer to the Revised Statutes of Missouri, 1969, unless otherwise indicated.

This litigation was initiated on June 7, 1974, when the Company filed its application with the Commission for permission to construct and operate a nuclear-powered steam electric generating plant in Callaway County, Missouri. Since the plant was to be constructed beyond the regular service territory of the Company, it was necessary for the Company to apply to the Commission for a certificate of convenience and necessity. Sec. 393.170. Appellant UCCM intervened in the proceedings before the Commission, as did several industries,[3] the City of St. Louis and the Coalition for the Environment. The Office of the Public Counsel entered its appearance.[4]

The Company's plans called for the construction of two nuclear-powered generating units, each with a nominal elec-

[3] General Motors Corporation, McDonnell Douglas Corporation, Monsanto Company, PPG Industries, Inc. and Anheuser-Busch, Inc.

[4] The Office of the Public Counsel was created by the Omnibus State Reorganization Act, Laws 1974, 1st Ex. Sess., p. 530, S.B. No. 1, which appears in the statutes as Appendix B, preceding Chapter 26, RSMo. (Supp. 1975). See also, Sec. 386.070 V.A.M.S. (1977 pocket part). The Office of the Public Counsel is a segment of the Department of Consumer Affairs, Regulation and Licensing. Sec. 1.5(1); Sec. 4.

The Omnibus State Reorganization Act effectively transferred from the Commission's general counsel to the public counsel the duty to represent the public interest before the Commission. In State ex rel. Mo. Power & Light Co. v. Riley, 546 S.W.2d 792, 796[4] (Mo.App. 1977), the court stated:

> ". . . it was clearly the intent of the legislature in the creation of the office of Public Counsel to divorce his functions from those of the General Counsel for the Commission; to place them in adversary positions where the facts of a situation warranted; to impose upon the Public Counsel the duty to represent the interests of the public and as a concomitant thereof clothe him with the power to adequately represent them; and, thus to achieve a fair balance of rights as between the public interest on the one hand and private interests on the other."

The Public Counsel herein actively participated in the hearings in his adversary role. He neither appealed nor joined in this appeal, although the court determined in State ex rel. Mo. Power & Light Co. v. Riley, *supra*, that the Public Counsel had the right to judicial review.

trical output capacity of 1,150 megawatts. The basis of each unit was to be a pressurized water reactor (PWR) modeled on the Standardized Nuclear Unit Power Plant System (SNUPPS) developed by a consortium of five utilities.[5] The nuclear steam supply system (NSSS) would include four steam generators along with the nuclear reactor to convert water to steam using reactor heat. The fuel in the reactor core would be in the form of small uranium dioxide pellets. The heat generated in the reactor would be transmitted to the steam generators where the steam produced would drive the turbine-generators to produce electricity. The operation of the first unit was planned for 1981, and the operation of the second unit for 1983.

Public hearings held primarily in Jefferson City, Missouri with one session in Clayton, Missouri lasted nearly one month. The industrial intervenors filed a "Statement of Position", but they did not participate in cross-examination at the hearings. The Coalition for the Environment filed nothing after their "application to intervene" but were represented at the hearing by the same counsel appearing for appellant UCCM. Counsel for the City of St. Louis, the Public Counsel, the counsel for appellant, and counsel for the Company participated in cross-examination at the hearings.

On March 14, 1975, the Commission entered its "Report and Order", to become effective April 1, 1975, finding in pertinent part that:

> 1) "the need for the proposed plant to meet present and future demands for service was established by Company";
>
> 2) "based on all of the evidence in the record, we [the Commission] are compelled to reach the conclusion that the most economical way of supplying the increased elec-

[5] Union Electric Company, Rochester Gas and Electric, Northern States Power, Kansas Gas and Electric, and Kansas City Power and Light Company.

trical needs of Company's customers in the future is through the construction of the proposed nuclear plant";

3) "the evidence in this record clearly establishes within reasonable certainty, Company's ability to obtain the necessary financing";

4) "the issue of radiological health and safety is within the exclusive jurisdiction of the federal government";

5) "there remains no specific statutory authority for *in camera* proceedings"; and

6) "with regard to the proprietary privilege claimed by Company, this Commission does not have the jurisdiction or authority to determine judicial questions."

The Commission also found that the construction of the nuclear plant was in the public interest. On March 31, 1975 appellant filed its "Motion to Set Aside Final Order and Re-Hear Case" which was denied.

On May 1, 1975, appellant filed its "Petition for Writ of Certiorari, Writ of Review" pursuant to Sec. 386.510 RSMo. (1975 Supp.). On September 19, 1975, appellant filed a "Motion to Summarily Set Aside Commission's Order and Remand the Matter to the Commission for Further Proceedings" for the reason that appellant had discovered that written testimony allegedly submitted to the Commission on the subject of safety was not filed in the record. On January 7, 1976, the Circuit Court affirmed the Commission's Report and Order. Thereafter, appellant filed its timely notice of appeal.

Initially, this court notes that jurisdiction is properly vested in the St. Louis District. Section 386.510, RSMo. (1975 Supp.) states that "the applicant [for review] may apply to the circuit court of the county where the hearing was held or in which the commission has its principal office for a writ of certiorari or review." Because a formal public hearing was held by the

Commission in St. Louis County (Clayton), Missouri, the applicant's petition for review was properly brought in the circuit court of St. Louis County. See, State ex rel. Case v. Seehorn, 283 Mo. 508, 223 S.W. 664, 670-71[8] (banc 1920). Thus, this appeal lies within our territorial jurisdiction.

Briefly, the scope of review for both the circuit court and this court is delineated by Sec. 386.510, RSMo. (1975 Supp.). This section provides for judicial review of administrative action to determine the "reasonableness or lawfulness" of the action. An administrative order is lawful if the Commission had statutory authority to issue it.[6] The order is reasonable if it is supported by competent and substantial evidence on the whole record. State ex rel. Ozark Electric Coop. v. Public Service Com'n., 527 S.W.2d 390, 392[1] (Mo.App. 1975) and cases cited therein. See also Mo. Const. Art. V § 22. The term "substantial evidence" means competent evidence which, if believed, would have a probative force on the issues. State ex rel. Rice v. Public Service Commission, 359 Mo. 109, 220 S.W.2d 61, 64[3] (banc 1949); Brooks v. General Motors Assembly Division, 527 S.W.2d 50, 53 [4] (Mo.App. 1975). Appellant has the responsibility of pointing out the evidence which it considers unreasonable and unlawful. State ex rel. Pugh v. Public Service Commission, 321 Mo. 297, 10 S.W.2d 946, 952[10] (1920).[7]

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[6] Appellant does not challenge the authority of the Commission to enter its order issuing the certificate of convenience and necessity to the Company.

[7] Appellant has alleged that "crucial evidence", specifically Exhibit 18 and the testimony of W. E. Cornelius regarding rate increases, is incompetent. Appellant contends that evidence by Donald Schnell on fuel costs is incompetent. There are other areas in which appellant claims that the denial of cross-examination rendered "the evidence" incompetent, but it does not specify which evidence. Additionally, appellant contends that the entire testimony of H. Clyde Allen should be "disregarded" as incompetent. In its Reply Brief appellant goes so far as to state that "all of the evidence in the record" is insufficient to support the Commission's findings. The bulk of appellant's claims that evidence is incompetent lacks the requisite specificity to carry appellant's burden of pointing out the evidence which it considers unreasonable and unlawful.

I

We believe that appellant's most significant point for reversal is:

> "The Commission's refusal to permit Appellant to cross-examine Company's witnesses on the basis of their conclusions regarding comparative costs of nuclear and fossil plants and Mr. Cornelius' testimony regarding the impact of the proposed construction on future revenue needs and rate increases renders that evidence insubstantial and incompetent. Testimony that has not been cross-examined is incompetent and insubstantial since its veracity has never been tested and thus cannot be trusted. Without the support of this testimony the evidence upon which the Commission's decision is based is insubstantial and incompetent. Thus the PSC's Order is not based upon substantial and competent evidence upon the whole record and must be set aside."

Appellant contends that it was denied cross-examination as to the contract price of the turbines, the escalator factors in the turbine contracts, the "base-line" price of Company contracts with Bechtel Power Corp., Westinghouse Corp. and General Electric Corp., the cost of uranium and the cost of fabricating the fuel assemblies that hold the uranium pellets. Appellant alleges for the first time in its brief that this contract information was necessary to determine the extent to which the Company's principal exhibit, Exhibit 18,[8] was based on firm con-

[8] Exhibit 18, a document entitled "1982 Annual Cost Comparison", was a chart comparing the 1982 costs of a nuclear facility of 1,150 megawatts with the 1982 costs of two coal units each producing 575 megawatts. The exhibit falls within the ambit of Willapoint Oysters v. Ewing, 174 F.2d 676, 691 [18, 19] (9th Cir. 1949) wherein the court reaffirmed the evidentiary rule that "where voluminous documents are a nceessary part of the evidence in a cause, it is well settled that tabulations of these documents in the forms of charts and schedules may be introduced for the aid of the trier of fact."

tracts or on estimates.[9] The Company claimed at the hearings and on appeal that the information sought by appellant was proprietary.[10]

The right to cross-examination in administrative proceedings is governed by Sec. 536.070(2),[11] which provides that:

> "Each party shall have the right to call and examine witnesses, to introduce exhibits, to *cross-examine opposing witnesses on any matter relevant to the issues even though that matter was not the subject of the direct examination,* to impeach any witness regardless of which party first called him to testify, and to rebut the evidence against him." (Emphasis added).

The hearings of administrative agencies must be conducted consistently with fundamental principles of due process which

[9] It should be noted that, during the hearings, appellant did not present this reasoning and did not approach the lack of cross-examination on contract terms so vigorously. On two occasions, counsel for appellant indicated his uncertainty that he would cross-examine on the contracts or on Exhibit 18. His primary concern was whether the Company was "overly optimistic" on its numbers (data).

[10] The Company contends that proprietary means that contract terms are protected from disclosure to non-contracting parties. Disclosure is a breach of contract for Company. A proprietary clause in a contract exists to prevent collusion by vendors in accordance with antitrust laws. The proprietary clause, Paragraph "b" of Article 17 of Company's fuel contract, reads as follows: "Westinghouse also has a proprietary interest in the proposal—referring to the proposal to sell fuel—and in this contract or other documents resulting therefrom, the aforementioned proposal and contract documents of any contract resulting therefrom shall not be disclosed in whole or in part to third parties without the prior written consent of Westinghouse; provided, however, that nothing in this proprietary data clause shall be construed to deprive the owner from enforcing any rights granted by the terms and conditions of any contract resulting from the proposal."

[11] Chapter 536, the Missouri Administrative Procedure Act, supplements Chapter 386 regulating the Public Service Commission, except where in direct conflict with it. See Patterson v. Thompson, 277 S.W.2d 314, 317 [5] (Mo.App. 1955). Thus, the procedures delineated in Chapter 536 for a hearing and for the presentation of evi-

include the right of cross-examination. Southern Stevedoring Co. v. Voris, 190 F.2d 275, 277[2] (5th Cir. 1951). The purpose of cross-examination is to sift, modify or explain what has been said, to develop new or old facts in a view favorable to the examiner, Hungate v. Hudson, 353 Mo. 944, 185 S.W. 2d 646, 649[6] (1945), and to test the correctness of the information from the witness with an eye to discrediting the accuracy or truthfulness of the witness. Lolordo v. Lacy, 337 Mo. 1097, 88 S.W.2d 353, 355[3] (1935). When the evidence is critical to the issues and necessary to sustain a proponent's burden of proof, cross-examination is essential to testing the reliability of evidence. As the court stated in Powhatan Mining Co. v. Ickes, 118 F.2d 105, 109 (6th Cir. 1941), in a situation where an agency had compiled data from coal producers but refused to disclose the names of the producers:

> "It is difficult to see how the accuracy, authenticity and relevancy of these tabulations could be tested in any way without the disclosure of the names of the code members [coal producers] who reported the data upon which the tabulations are based."

In reversing, the court noted that, absent cross-examination to obtain these names and other relevant information, errors could not be checked nor the real meaning of figures developed.

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dence during a hearing apply unless a contrary provision exists in Chapter 386.

Although Sec. 386.410 states that "[a]ll hearings before the commission or a commissioner shall be governed by rules to be adopted and prescribed by the commission" these rules were not introduced into evidence. This court can not take judicial notice of the Commission's rules. Nabors v. United Realty Company, 298 S.W.2d 474, 480 [6] (Mo.App. 1957); Kersey v. Harbin, 531 S.W.2d 76, 80 [7] (Mo.App. 1975). The provisions of Sec. 536.031 (5), RSMo. (1976 Supp.), providing for judicial notice of the Code of State Regulations which publishes agency rules, did not take effect until January 1, 1976. The proceedings giving rise to this appeal occurred in 1974, prior to that effective date. For the current rules, see 4 CSR 240-2.130.

Likewise, in Re Investigation of Minimum Highway Permit Carriers, 72 PUR 3d 237 (Cal. Pub. Util. Com'n 1968), the Commission found that cross-examination to obtain the revenues, tonnages and products of carriers (though not their names) should have been allowed. And, the Commission commented at 243 that "parties to commission proceedings are entitled to sufficient information on the record to test the accuracy of the facts and conclusions set forth in the staff reports."

We conclude that the appellant's right to cross-examination was improperly restricted. The Company contends that the proprietary nature of the information sought by appellant's cross-examination protected that information from disclosure.[12] This contention cannot stand. The Company did not present any law at the hearings nor to this Court which would indicate that there was an evidentiary privilege because of the proprietary nature of the contracts. We do find cases which recognize the proprietary interest and we are not unmindful of the problem. See, Westinghouse Elec. Corp. v. United States Nuclear Regulatory Com'n, 555 F.2d 82 (3rd Cir. 1977). Though the court acknowledges that in some circumstances the proprietary nature of information may shelter it from examination, the Company here cannot hide behind the proprietary nature of the information. The Company proffered testimony and exhibits based on proprietary information. If it seeks to rely on proprietary information to carry its burden of proof and, thereby, benefit from the use of such information, then it may not protect that information from scrutiny by claiming it need not disclose. Furthermore, when the subject

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[12] Though the court need not decide this issue, it notes that the right to inspect the proprietary information was offered to all parties upon the signing of a nondisclosure agreement. This opportunity was rejected by appellant and all others. Furthermore, the Commission suggested that appellant subpoena the contracts for its perusal. Appellant had the right to utilize subpoena power of the agency, Sec. 536.077, but failed to take advantage of it.

matter under consideration is of such importance to the public welfare, we believe that the public interest requires full disclosure of relevant information on cross-examination. See Westinghouse Elec. Corp. v. United States Nuclear Regulatory Com'n, *supra* at 92.[13]

We must next determine the effect of the improper restriction of cross-examination. Appellant contends that all evidence on the comparative costs of a nuclear-powered plant versus a coal-fired plant was rendered incompetent by the Commission's improper restriction. However, appellant was given the opportunity and did examine extensively information provided in Exhibit 18. At the close of the hearings, the Commission asked all parties individually, including the appellant, if they had any objection to the admission of the exhibits, specifically

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[13] The Nuclear Regulatory Commission has a rule providing for disclosure of proprietary information. We believe that the Commission should take steps to promulgate a similar rule for the examination of proprietary information and for the presentation of evidence or cross-examination involving proprietary data by means of an *in camera* proceeding. *In camera* examination is allowed in other situations. See, e.g., Sec. 452.385, RSMo. (1975 Supp.) providing for examination of a child in chambers; Re Pacific Northwest Bell Tel. Co. 9 PUR 4th 49, 55 (Oreg. Pub. Serv. Com'n 1975) wherein inspection of documents containing trade secrets proceeded *in camera;* and State v. Yates, 442 S.W.2d 21, 25 [5] (Mo. 1969) wherein the court stated that the public interest in effective law enforcement demanded an *in camera* proceeding to discover the name of an informant and yet to preserve his confidentiality. The Commission's *in camera* sessions could be placed on the record and all parties and counsel would be present. Testimony at such sessions would only be transcribed and revealed in the event that the Commission relied on the testimony in its findings.

Appellant attacks the denial of an *in camera* proceeding in the instant case. However, it failed to raise the issue in its "Motion to Set Aside Final Order and Re-Hear Case" and, thus, has not preserved the issue for review. Sec. 386.500(2). Even if appellant had properly preserved its point, it would not be necessary to determine the issue because we concede its primary point. Appellant contends error in denial of an *in camera* proceeding only because it was improperly denied cross-examination on certain subjects. We agree that its cross-examination was improperly restricted, so we need not address the secondary, or alternative point regarding the *in camera* proceeding.

referring to the numbers of the exhibits. Appellant replied "no objection" to the admission of all exhibits, including Exhibit 18. All exhibits were admitted.

Failure to object to the admission of Exhibit 18 after appellant had been restricted in its cross-examination constituted a waiver by appellant, and it cannot now object to its admission. Even if an objection or a motion to strike had been made, the entire exhibit would not have been inadmissible. The principle is well-established that, if any part of an exhibit is admissible, an objection going to the whole of it is properly overruled. Breshears v. Union Electric Company, 373 S.W.2d 948, 952[2] (Mo. banc 1964); Allen v. St. Louis Public Service Company, 365 Mo. 677, 285 S.W.2d 663, 667-8[8] (1956). Oral testimony by various witnesses regarding cost comparisons which appellant claims the Commission should not consider falls into a category of evidence wherein the testimony was admissible when taken and only later, due to the restriction of cross-examination, became inadmissible. Appellant made no motion to strike either at the time when its cross-examination was restricted or at any other time. It is well-settled that a motion to strike is the correct means of removing from consideration evidence properly admitted when such evidence later becomes inadmissible. Michaud v. Ruch, 545 S.W. 2d 703, 707 (Mo.App. 1976); Davis v. Sedalia Yellow Cab Company, 280 S.W.2d 869, 871[4] (Mo.App. 1955); Weniger v. Weniger, 32 S.W.2d 775, 776[4] (Mo.App. 1930). Failure to make a motion to strike constituted a waiver by appellant, so that oral testimony which could have been excluded was nevertheless properly considered by the Commission.

Appellant further contends that its cross-examination of Mr. W. E. Cornelius, Executive Vice-President of the Company, was restricted. The Company presented evidence regarding the financing of construction through Mr. Cornelius. The cost of construction for the nuclear facility was projected at $1,758,-

000,000. This cost would be financed by issues of all types of securities and by tapping internal sources of funds. Mr. Cornelius testified that these resources would provide the financial capability to finance construction. Mr. Cornelius was cross-examined regarding the necessity or probability of a rate increase due to the cost of construction.[14] Appellant inquired about the specific amounts and the timing of future rate increases and the projected net operating income of the Company. The Company objected on the ground that public disclosure of the figures was prevented by the Securities and Exchange Act of 1933, 15 U.S.C.A. § 77e(c), since the Company had registered an issuance of securities with the Securities and Exchange Commission. The objection was sustained. As with the proprietary information, the Commission erred in sustaining this objection. Appellant failed to make an offer of proof and even stated that "we aren't going through objections." Further, appellant failed to make a motion to strike any evidence relating to financial data and failed to object to the admission of Exhibit 6. In addition, the financial information was later revealed by a different series of questions using averages rather than specific figures as requested, so that appellant actually obtained the information sought by cross-examination though in a different manner. Furthermore, net income was available to appellant in Company Exhibit 6. The method of computing net operating income was explained to appellant, as was the possibility that a rate increase might be necessary if net operating income dropped.

Appellant elected not to cross-examine Mr. Ernest G. Ellingson, Chief of Economic Research for the Commission, on mat-

[14] Appellant argues to this court that a material aspect of the case is whether the financing of construction would necessitate a rate increase and, thereby, reduce demand for electricity. Appellant assumes that if rates are increased, demand is reduced; and, if demand is reduced, the need for the proposed facility is eliminated. No evidence to this effect was introduced. In fact, testimony revealed that the demand for electricity is price inelastic; i.e., a rate increase does not result in a decrease in demand.

ters pertaining to proprietary information; however, appellant did cross-examine Mr. Ellingson on other matters. Appellant contends that this decision did not constitute a waiver of its right to cross-examination in view of its "continuing objection" regarding the denial of cross-examination on proprietary data. And, appellant argues that any of Mr. Ellingson's testimony based on the proprietary information is incompetent. Mr. Ellingson signed a non-disclosure agreement and was then able to examine the so-called proprietary contracts. He testified that the contract terms for the purchase of uranium were excellent and could not be duplicated in the current market. Renegotiation of the fuel contracts would add $50-100 million to the cost of the contracts. Mr. Ellingson also examined the cost calculations of the Company, assuming facts based on his own independent, objective experience and more stringent than those used by the Company. He concluded that the cost would be lower for a nuclear plant than for a coal-fired plant. The appellant did not attempt to cross-examine Ellingson on information he obtained as a result of his examination of the contracts. Appellant made no motion to strike any of Mr. Ellingson's testimony, and it remained available for the Commission's consideration.

We find there was further competent and substantial evidence on the whole record to support the findings of the Commission,[15] which includes the testimony of witnesses presented to support Company's contention that nuclear power was less costly than coal power. The principal witness was Mr. H. Clyde Allen, Director of Corporate Planning for the Company. He prepared Company Exhibit 18, and concluded that under all conditions the cost advantage rested with the nuclear facility. Mr. Allen was extensively cross-examined regarding the mathematical computation used to arrive at the cost per kilowatt hour for each

[15] Even had this court excluded Exhibit 18 from consideration, there remains other exhibits and testimony of several witnesses to support the Commission's findings.

facility, the background data on which Exhibit 18 was based, the cost of capital, the effects of inflation on fuel (coal) costs, the cost of construction obtained from the engineering department of the Company, and the capacity factor at which a nuclear plant must operate to be as expensive as a coal plant. Estimates of costs by the Bechtel Power Corp., designer of the proposed nuclear facility, were confirmed by the experience of other SNUPPS members, Rochester Gas and Electric as well as Northern States Power, who had already built nuclear power plants. Studies by another recognized consultant in the field of nuclear power, Arthur D. Little Co., also confirmed the Company's cost calculations.[16]

His testimony revealed that the use of scrubbers, equipment which removes sulfur dioxide from coal, had not been calculated in the cost per kilowatt hour for coal units. That calculation would reduce capacity of the coal plant by five and one-half percent (5½%) and, accordingly, increase the cost.

Mr. Donald F. Schnell, Company Manager for Nuclear Engineering, explained that over its life the nuclear plant would produce savings over a coal-fired plant because the maintenance and operating expenses are higher for a coal-fired plant than for a nuclear plant, and reliability of operation is lower for a coal-fired unit. He also described generally the contracts the Company had entered for the construction and operation of the facility other than the design and consultant arrangement with Bechtel Power Corp. Westinghouse Electric Company contracted to construct the nuclear steam supply system and to supply fuel. The fuel would be enriched by the Atomic Energy

[16] Exhibit 26, "A Study of Base Load Alternatives for the Northeast Utilities System" revealed that total generation costs in mills per kilowatt hour were lower for a nuclear unit than for a coal unit. Likewise, the operation and maintenance costs were lower for the nuclear plant than for the coal plant. Exhibit 27, "Report to Long Island Lighting Co. on Base Load Alternatives for the 1981-1984 Period" provided nearly identical conclusions.

Commission pursuant to a thirty-year contract. General Electric Corporation contracted to provide the turbine generators.

Mr. Charles J. Dougherty, President of the Company, added that the total cost of a nuclear plant, including capital costs, taxes, maintenance, operating expenses and depreciation, was lower than the total costs for a fossil fuel plant due to lower annual fuel costs. He testified that the nuclear generating facility was the most attractive source of electricity from an economic and environmental standpoint.

Other in-depth evidence was presented by Staff witness Dr. Walter Meyer, Professor and Chairman of Nuclear Engineering at the University of Missouri.[17] Dr. Meyer provided tabulations which compared costs of electrical power derived from various energy sources. All five of his tabulations, compiled from data pertaining to other nuclear facilities, revealed that nuclear power systems produce electricity at a lower cost than fossil fuel systems. Dr. Meyer concluded that the Company had made an objective evaluation in electing nuclear generating power.

II

Appellant also contends that the circuit court erred in failing to remand the case to the Commission for further testimony in light of new evidence discovered by appellant. Appellant claims that the written testimony of Dr. David Hoeppner, faculty member of the Nuclear Engineering Department at the University of Missouri, could have been filed with the Commission but was not filed. Furthermore, Dr. Hoeppner was not called to testify at the Commission hearing. But, appellant alleges that the testimony was considered and rejected by the Commission.

[17] Pursuant to contract, the Nuclear Engineering Staff of the University of Missouri was hired as consultants to the Commission to provide expertise in nuclear matters.

The Circuit Court may remand for further testimony only when the Commission failed to accept evidence "properly proffered" during Commission proceedings. Sec. 386.510, RSMo. (1975 Supp.). The record is devoid of any showing that the proposed testimony of Dr. Hoeppner was offered, either properly or improperly, at the Commission hearings. Nor is there any indication in the record that the Commissin knew of, read, considered, relied on or rejected the proposed testimony of Dr. Hoeppner. Our examination of Dr. Hoeppner's short statement, filed with the Circuit Court and made a part of its record, shows that his testimony is merely cumulative and would not affect the findings of the Commission.

Appellant had also requested the Circuit Court to hold a hearing on the "newly discovered" evidence of Dr. Hoeppner's testimony. The statute, Sec. 386.510, RSMo. (1975 Supp.) is clear in stating that "no new or additional evidence may be introduced upon the hearing in the circuit court". We believe the sentiments expressed in Interstate Commerce Com'n v. Jersey City, 322 U.S. 503 at 514, 64 S.Ct. 1129 at 1134[5], 88 L.Ed. 1420 at 1428 (1944) are apropos:

> "One of the grounds of resistance to administrative orders throughout federal experience with the administrative process has been the claims of private litigants to be entitled to rehearings to bring the record up to date and meanwhile to stall the enforcement of the administrative order. * * * If upon the coming down of the order litigants might demand rehearings as a matter of law because some new circumstance has arisen, some new trend has been observed, or some new fact discovered, there would be little hope that the administrative process could ever be consummated in an order that would not be subject to reopening."

The circuit court correctly refused to remand or to hear new evidence.

III

Appellant contends that the circuit court erred in failing to remand to the Commission for further testimony regarding the economic impact of nuclear accidents on the overall cost of a nuclear power plant. A thorough reading of nearly 4,600 pages of transcript and 107 exhibits reveals that the Commission admitted into evidence a bulk of information relating to the question of safety. The Findings of Fact and Conclusions of Law issued by the Commission indicate that the Commission did, indeed, evaluate the evidence on safety. The evidence indicated that the economic impact of the risk of a possible nuclear accident was insignificant. And, appellant admitted that any prediction of the cost of a possible nuclear accident was purely speculative, and the testimony showed that no data existed to predict such a cost. The safety of the production and use of nuclear energy is one of the great debates of our time. However, neither the Commission nor this court, in reviewing this case, has the authority to determine that the construction of a nuclear generating facility in Callaway County is safe. The federal government pre-empts this issue.

The doctrine of federal pre-emption with respect to the safety issue is aptly expressed in the leading case Northern States Power Co. v. State of Minnesota, 447 F.2d 1143 (8th Cir. 1971), *aff'd mem.*, 405 U.S. 1035 (1972), written by Judge Matthes who was formerly of this court. The court there held that the federal government has exclusive authority to regulate the construction and operation of nuclear power plants. The holding is compatible with the relevant federal statutory provision, 42 U.S.C.A. 2021(k), reserving to the States the regulation of "activities for purposes other than protection against radiation hazards." The basis for the ruling in *Northern States Power Co.* was that the control of radioactive effluents discharged from the power plant was closely intertwined with the planning, construction and operation of the nuclear

facility. Herein lies the distinction in the present case. The federal government regulates *how* nuclear power plants will be constructed and maintained; the State of Missouri regulates *whether* they will be constructed.[18] The federal regulations pertain to plans, specifications, safety mechanisms and the like. The Commission's considerations pertain to economic feasibility, need for increased power and financing. It is obvious that the considerations of the State of Missouri do not affect the control of *how* the nuclear facility will be constructed and physically maintained. The considerations of the Commission do not attempt to protect the citizens of Missouri against radiation hazards. The issue of safety rests in the exclusive domain of the federal government. We find no error in the refusal of the circuit court to remand for further evidence regarding the economic impact of nuclear accidents on the overall cost of the nuclear power plant.

Finding that the order of the Commission granting a certificate of necessity and convenience to the Company was supported by competent and substantial evidence on the whole record, we affirm.

ALL THE JUDGES CONCUR.

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[18] The Commission must determine whether it will issue its certificate of convenience and necessity. To arrive at its determination, the Commission must find that the nuclear facility is adequate to meet the needs of the public and is economical when compared with alternative sources of energy.

APPENDIX D

Circuit Court of the County of St. Louis
State of Missouri

No. 367749

State of Missouri, ex rel. Utility Consumers Council of Missouri, Inc., Relator,

v.

Public Service Commission of Missouri and Union Electric Company, Co-Respondents

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January 7, 1976

Opinion and Decision

On May 2, 1975, the relator, Utility Consumers Council of Missouri filed an application in this Court pursuant to Section 386.510 (all sections herein cited refer to R.S.Mo., 1969) for a writ of certiorari to review the order of the Missouri Public Service Commission entered on March 14, 1975, in case no. 18,117. That order authorized Union Electric Company "to construct, operate and maintain a multi-unit steam electric generating plant in Callaway County, Missouri".

The writ was issued and in accordance therewith the respondent Public Service Commission certified to this Court its entire record, which includes five volumes consisting of more than 3600 pages of testimony, one volume of pleadings, and two volumes

containing approximately 99 exhibits. The hearing alone took 15 days of extensive day and nighttime sessions between October 28 and November 21, 1974. Pursuant to Section 386.510, Union Electric Company was granted permission to appear in the review proceeding and be heard as a party respondent.

The matter was briefed on the merits by relator and respondent Union Electric Company and orally argued before this Court by counsel for relator and both respondents on October 15, 1975. Prior to that date, relator had filed with this Court a "Motion to Summarily Set Aside Commission's Order and Remand the Matter to the Commission for Further Proceedings" to which several exhibits were attached. Briefs concerning relator's motion were filed prior to the October 15 argument, and counsel for all parties presented their views on that motion during such argument.

The proposed Callaway Plant will initially consist of two 1150 megawatt nuclear power units to be ready for operation in 1981 and 1983. Since these units will constitute the first nuclear facilities in Missouri, the Court recognizes the public importance of this case.

The Court has thoroughly read each page of the transcript of evidence and fully considered all of the record, except 3 of the 99 exhibits which the parties stipulated were not relevant to a decision in this case. Additionally, the Court read all briefs and considered and heard extensive oral argument. The facts hereinafter discussed, the conclusions reached and the decision rendered are based on such considerations as well as consideration of the authorities cited by the parties and some independent legal research.

The respondent Public Service Commission is an administrative agency of the State of Missouri, which has the statutory responsibility of regulating Missouri electric utilities. See Chapters 386 and 393 of the 1969 Missouri Revised Statutes. The order of the Commission authorizing the respondent Union Electric to construct the Callaway Nuclear Plant was entered by the Commission after a hearing held pursuant to Section 393.170.3. That section provides that the Commission shall have the authority to approve the construction of an electrical generating plant if it is "necessary or convenient for the public service".

The respondent Union Electric Company, which had filed its application for Commission approval on June 7, 1974, is primarily an electric utility serving the St. Louis Metropolitan Area, as well as other parts of Missouri and certain areas in Illinois and Iowa. The City of St. Louis, the Coalition for the Environment, General Motors Corporation, Monsanto Company, PPG Industries, Inc., McDonnell Douglas Corporation and Anheuser Busch, Inc., as well as the relator Utility Consumers Council of Missouri (UCCM), intervened and were heard as parties in the Commission proceedings. Counsel for The City of St. Louis and the intervenor corporations, in briefs filed with the Commission at the conclusion of the hearing, supported Union Electric's application.

Evidence was presented by the Commission's Staff, as well as by Union Electric; the Staff's evidence completely supported the Company's application in all respects. Staff personnel took an active part throughout the proceeding, and the Commission's General Counsel, during oral argument before this Court, urged that the Commission's order be upheld. The Public Counsel in the Missouri Department of Consumers Affairs also appeared and participated throughout the hearings, but did not take any position as to the action the Commission should take. It should be noted that UCCM is the only party or participant that has sought judicial review of the Commission's order.

As previously mentioned, the statutory test to be applied by the Commission in determining if its approval should be granted

is whether construction of the proposed nuclear plant is "necessary or convenient for the public service". Section 393.170.3. In support of its application to construct the plant, the Company presented extensive testimony and documentary evidence relating to all pertinent matters, including particularly (1) the future demand for electrical service and the necessity of constructing additional generating facilities to supply that demand, (2) the distinct cost advantage to consumers of nuclear over fossil (coal) generating facilities over the life of the plant, and (3) the recent Atomic Energy Commission report concerning safety to the public of nuclear plants.

Clearly, such evidence is not only appropriate, but essential to a correct decision of this case. As Mr. Gerald Charnoff, counsel for Union Electric, stated in his closing argument to the Commission, there are really only two issues to be resolved. The first is whether sound estimates of the demand for electric power in the early 1980's require the construction of additional generating facilities. If that is the case, the public convenience and necessity demand that such construction be undertaken. The second issue is whether such additional generating facilities shall be nuclear or coal. The answer to that question depends on whether nuclear facilities are reliable and more economical than coal, as well as safe for the public.

Relator did not raise in its briefs or oral argument before this Court the question of whether a reasonably estimated increase in demand for electrical service in the early 1980's required the construction of additional generating facilities. And, indeed, it would have been futile to have done so, since the record amply supports the proposition that there will be such an incerased demand and, quite obviously, public convenience and necessity require that that demand be met.

The points relator raises in this Court relate, and then only peripherally, to (1) the cost of nuclear as opposed to coal generating facilities and (2) the safety of nuclear plants. Consequently, the Court will discuss primarily the evidence and authorities relating to those points and will expand its discussion somewhat to lay at rest misconceptions that have grown up in some circles as to the safety of nuclear plants.

However, before entering upon a discussion of relator's points and the evidence and authorities relating to them, it is appropriate to mention briefly the scope of judicial reivew of Commission orders as set forth in the applicable statutes and the Missouri Supreme Court and Appellate Court decisions construing them.

Section 386.510 provides that the Court shall review the evidence and exhibits introduced before the Commission for the purpose of determining the reasonableness and lawfulness of its order. Additionally, Sections 386.270 and 386.430 provide that orders of the Commission shall be presumed valid, and the burden is on the party claiming otherwise to demonstrate their invalidity "by clear and satisfactory evidence."

In *State ex rel. Kansas City Transit, Inc. v. PSC*, 406 S.W.2d 5 and *State ex rel. Rice v. PSC*, 220 S.W.2d 61, the Missouri Supreme Court en banc held that orders of the Commission must be affirmed when supported by competent and substantial evidence on the record as a whole. Also, a Commission order cannot be considered unreasonable unless the complaining party demonstrates that it is arbitrary, capricious or without rational basis. *State ex rel. Missouri, Kansas and Oklahoma Coach Lines v. PSC*, (K.C. Ct. of App.) 179 S.W.2d 132. In line with the statutory provisions mentioned above, a Commission order is prima facie valid and the person contesting it has the burden of demonstrating otherwise. *State of Missouri ex rel. Railroad v. PSC*, (Mo.Sup., en banc) 312 S.W.2d 791.

Relator's assert that the record before the Commission is inadequate and incomplete since relator's counsel were not per-

mitted to examine (1) the Union Electric Contract with Westinghouse Electric Corporation to supply nuclear fuel, (2) the Union Electric contract with Bechtel Corporation for construction of the plant and (3) estimated future earnings of Union Electric. With respect to fuel and construction contracts, Union Electric claimed them to be proprietary but continually expressed a willingness that they be examined by relator's counsel, if they would execute a non-disclosure agreement. As to the financial data, the Company's executive vice-president testified that issuances by the Company of common and preferred shares had been registered with the Securities and Exchange Commission, thereby making public disclosure of estimated future earnings invalid under the Securities Act of 1933 and SEC interpretations of it. Again, counsel for Union Electric frequently expressed a willingness to permit examination of such estimated future earnings and financial data connected therewith if relator's counsel would sign a non-disclosure agreement.

With respect to estimated future earnings, relator did, in fact, receive sufficient information at the hearing (pp. 4364-4368, transcript). Further detail was unnecessary to a determination by the Commission of Union Electric's application to build a nuclear plant. It would be ridiculous to reverse the Commission on this ground. The evidence before the Commission was sufficient to support the Commission's Order, and UCCM offered no evidence with respect thereto.

Despite repeated offers by Union Electric counsel, the attorneys for relator remained steadfast in their refusal to execute any non-disclosure agreement. Additionally, the question of an in-camera proceeding by the Commission was frequently discussed and a motion requesting such a proceeding was made by applicant, Union Electric. However, the motion was correctly denied by the Commission, because of the provisions of Section 610.-015, (commonly referred to as the "Sunshine Law"), which states that 'public meetings shall be open to the public'. This case is

a classic example of a situation where the "Sunshine Law" (strongly supported by the news media) can bring undesirable results. Ernest G. Ellingson, Chief Economist on the Commission Staff, did execute a non-disclosure agreement and examined the Westinghouse fuel contract. He testified that it was very advantageous to Union Electric's customers and that public disclosure of the terms of the contract would void the contract and cost the customers (public) between 50 million and 100 million dollars.

Section 386.510, with respect to review of an order of the Public Service Commission by The Circuit Court provides in part:

"Upon such hearing, the Circuit Court shall enter judgment either affirming or setting aside the order of the Commission under review. In case said order is reversed by reason of the Commission failing to receive testimony properly proffered, the Court shall remand the cause to the Commission, with instructions to receive the testimony so proffered and rejected, and enter a new order based upon the evidence theretofore taken, and such as it is directed to receive".

The Court is at a loss to determine, and is unable to locate anywhere in the 3600 pages of testimony, any instance where any testimony proffered by UCCM was rejected by the Commission. UCCM was only precluded from further fishing expeditions on cross-examination of Union Electric witnesses when they claimed proprietary interest under the contracts. In fact, at p. 4438 of the transcript, relator UCCM's counsel responded to questions by the Commissioners as to the proprietary contracts as follows:

"Frankly, I'm not particularly concerned about the contract numbers themselves. The only aspect of those contracts that seem to me to be relevant to this case are the escalation factor limits that are included in the contracts. Other than that, I don't

expect to have much of any cross-examination on the contracts that exist."

The Court has been unable to locate any Missouri case decided on the basis of evidentiary rulings by an administrative body. Relator cites to the Court *State v. Burton*, 324 S.W.2d 75, wherein appellants likewise contended that they were deprived of the opportunity of cross-examination. The Court held the practice disclosed in that case was not recommended, but that appellant's rights were not prejudiced. The voluminous record before the Court in this case is a far cry from the facts in *Burton*. Relator contends the record is incomplete; the record is extremely complete. No prejudice whatever is shown in this case.

Although the Commission upheld the Company's objections to public disclosure of the proprietary contracts, Commissioner Clark strongly urged UCCM counsel to request subpoenas for the contracts and thereby obtain a judicial ruling as to whether they must be disclosed. This, UCCM, failed to do.

Relator failed to diligently pursue this matter by obtaining subpoenas, failed to even cross-examine Mr. Ellingson (who had read the contract and testified), failed to make any offer of proof, and totally failed to make any attempt to submit any substantial evidence of its own on the subject, and such failures clearly constitute a waiver of any right it might have had to obtain such information. The Court declines to remand the case to the Commission. The record is abundantly clear, and the Court is convinced that further cross-examination on this subject would be futile. The Commission ruled correctly. Even more important, the evidentiary rulings of the Commission were correct. Even though Union Electric objected on proprietary grounds, the questions in each instance violated the "best evidence" rule. Despite the peripheral complaints of relator, the evidence, taken as a whole, clearly demonstrates that the consumers will pay less for electricity from nuclear units than they would from coal fired units, that service from nuclear units will be reliable and that they can be financed by Union Electric.

A substantial part of the record, as well as the briefs and oral argument of the parties, was devoted to the question of safety of the proposed nuclear plant. Acts of Congress compel an electric utility to obtain a construction permit before a nuclear plant can be constructed and to obtain an operating license before operations can be commenced (42 U.S.C. Sections 2234, 2235 and 2133). This permit and license must be obtained from the Federal Nuclear Regulatory Commission (formerly the Atomic Energy Commission), and that Commission is charged with the duty of determining that the plant will be safe before either the construction permit or the operating license can be issued.

Union Electric claimed that the Federal Government had pre-empted safety considerations of nuclear plants by these Congressional Acts and cited in support of that proposition the decision of the Eighth Circuit Court of Appeals in *Northern States Power Co. v. Minnesota*, 447 F.2d 1143, aff'd. 405 U.S. 1035, 92 S.Ct. 1307. The Missouri Public Service Commission agreed with this proposition but, nevertheless, admitted into evidence anything and everything offered by relator relating to safety of nuclear plants, including hearsay testimony with respect to magazine and newspaper articles. In addition, well informed members of the public, Vicki Keller, Don Stimble and William H. Miller and many others, testified on the basis of their research on the subject. After thorough consideration, the Missouri Commission, in no uncertain terms, found and held that:

> "The great weight of the evidence on the issue of plant safety overwhelmingly supports the conclusion that the proposed nuclear plant will pose no threat to the health and safety of the citizens of Missouri." (p. 31 of Report and Order).

UCCM also recognized that the Federal Government had pre-empted safety considerations of nuclear plants insofar as public health is concerned. However, they contended that the Missouri Commission must consider the safety question from the standpoint of determining whether the risks associated with the plant are so great as to make its construction economically inadvisable. The Court agrees with UCCM. Although a State cannot regulate a nuclear electric plant, The Missouri Public Service Commission must, and in this case did, determine whether the construction of such a plant is "necessary or convenient" for the public service. This includes cost of construction and operation.

Even though UCCM raises technical objections with respect to costs, their principal objection to the nuclear plant is still the safety factor. Germane to the cost objections of UCCM are some remarks of Byron Lee, Jr. given at a Nuclear Plant Availability Workshop in Williamsburg, Virginia held October 7-9, 1974: "There has been a great deal of information, or maybe I should say misinformation, passed out by the anti-nuclear community on this subject lately. Apparently many of them have given up on the technical arguments and now believe they can discredit nuclear power economically". (Applicants Ex. 19)

A short discussion of the ultimate facts with respect to the issue of safety of a nuclear plant will hopefully tend to dispel the misgivings some people may have through lack of knowledge on the subject, especially since the news media tend to give coverage to distorted views which will not stand the test of cross-examination. A recent five part series in a major St. Louis newspaper set forth many of the facts in the record as to the safety of nuclear plants.

The evidence concerning safety consisted principally of (1) a massive study conducted under the auspices of the United States Atomic Energy Commission (known generally and re-

ferred to here as the "Rasmussen Report"), which is a 248 page document that was placed in evidence as Applicant's Exhibit 20, and (2) the testimony of four professors in the nuclear engineering department of the University of Missouri, namely Doctors Darrol H. Timmons, Stanley R. Bull, Sudarshan Loyalka and Walter Meyer. The Staff of the Public Service Commission are to be complimented very highly for retaining the services of our own state university to obtain the expertise of its nuclear experts as independent witnesses to examine Union Electric's application to build a nuclear plant and to assist the Commission by testifying thereon.

At the outset, the Court should remind the readers of this opinion that life is not wholly "risk free". Indeed, anyone who rides in a car or crosses a street knows this to be true. Thus, the real question is the extent of risk a nuclear power plant presents. The Rasmussen Report at p. 188 concludes that "the total nuclear risk is small compared to the total risks from man-caused or natural events" and further states at p. 236 that "Counting commercial and military power reactors, there have been almost 2000 reactor years of experience with no nuclear accidents." As near as the Court can determine from the Rasmussen Report and the Record, the chance of a major nuclear accident is about one in 300,000. There is no possibility of explosion under any circumstances. The following quote from the Final Observations in the Rasmussen Report (pp. 247-8) is also appropriate:

> "The likelihood of reactor accidents is much smaller than that of many other accidents having similar consequences. While there are some in the public sector who will feel that the likelihood of occurrence of nuclear power plant accidents should be made essentially zero, neither nuclear accidents nor non-nuclear accidents of any kind have zero probability. We do not now, and never have, lived in a risk-free world. The fact is that nuclear accident probabili-

ties are so low that they are insignificant compared to the overall risks due to other man-made and natural risks. All other accidents, including fires, explosions, toxic chemical releases, dam failures, earthquakes, hurricanes, and tornadoes that have been examined in this study are much more likely to occur and can have consequences comparable to or greater than nuclear accidents".

The testimony of the four University of Missouri professors in its nuclear department, which was based on their professional knowledge and personal experience, also fully supported the proposition that the risk from the proposed nuclear plant will be insignificant. Their testimony fully withstood the onslaught of extensive cross-examination. The Court agrees with the Commission's finding that the plant will be safe. The Court, likewise agrees with the Commission's conclusion (p. 27 of Report and Order) that "No persuasive challenges were made by Intervenors (including relator) on the issue of plant safety. The testimony of Intervenor's witnesses was discredited after extensive cross-examination." One of the independent nuclear experts called by Commission Staff labeled the testimony of one UCCM witness as "outrageous". It is the Court's opinion that the testimony of each witness for UCCM was rendered worthless by cross-examination.

Turning now to relator's contention that an economic appraisal of the nuclear risk should be made, it is quite obvious that the economic impact is insignificant. Such was the finding of the Public Service Commission. This is borne out by the finding in the Rasmussen Report at p. 198 that "reactor accidents have a negligible impact on the total risk of economic loss from man's activities and from natural events." The Commission properly determined that the economic impact of the safety question was insignificant and that construction of the plant was necessary to provide sufficient electric supply for anticipated demand.

The evidence before the Commission is unquestioned that oil and natural gas as fuel is much too costly and its availability too speculative to be considered for use as fuel to produce electricity in 1982. Also, the evidence indicates that other sources of energy (i.e. solar, oil shale, etc.) will not be commercially feasible by 1982. Thus, the only choice for Union Electric in producing the additional electric power needed by 1982 is construction of the proposed nuclear units or construction of more coal fired generating plants. All of the evidence conclusively proved that electricity produced by nuclear units will be cheaper over the life of the plant.

In addition, and perhaps more important, is the abundance of documentary evidence and testimony before the Commission to the effect that mankind and the environment are considerably more adversely affected by coal fired plants than by nuclear plants. Included in the evidence are detailed statistics in lengthy exhibits pertaining to disease, injuries and deaths from coal mining and air pollution, as well as disruption of the environment by strip mining, acid mine runoff, etc. The evidence conclusively proved that nuclear units are cheaper, cleaner and safer than coal fired units.

Finally, the Court considers relator's "Motion to Summarily Set Aside Commission's Order and Remand the Matter to the Commission for Further Proceedings" which was filed more than three months after the Commission's record was certified to this Court. First, relator claimed that the Commission Staff had suppressed testimony of Dr. David W. Hoeppner, a Professor in the Nuclear Engineering Department of the University of Missouri, and that counsel for relator *believed that on cross examination* Dr. Hoeppner *might* have contradicted some of the testimony of the four University of Missouri professors, which the Commission Staff did call as witnesses. Relator attached as Exhibit 1 to its motion prepared testimony of Dr. Hoeppner and purported to support the statement that on cross-examination he

might have contradicted his colleagues by an affidavit of one of its counsel.

Secondly, relator claimed that certain data in a Report of the State Auditor dated September 16, 1975 (attached as Exhibit 2 to the Motion) indicated that the four Professors who did testify might be biased, since the report showed that Union Electric supplied monetary assistance to the University of Missouri, which the Professors failed to detail in their testimony. Relator also claimed that Westinghouse had announced an intention not to fully perform its nuclear fuel contract with Union Electric, thereby raising questions about operating costs of the proposed plant.

It is apparent that this motion is at least in part an attempt to re-open the case because of "new evidence". Relator had already unsuccessfully attempted on two occasions to re-open the Commission hearings on "new evidence" grounds. Relator filed motions on January 3 and February 7, 1975 (which were dates after the hearing was concluded) to re-open the case because of "new evidence". The Commission properly denied those motions by orders entered January 22 and April 2, 1975.

Referring generally to the problem of re-opening administrative hearings, the Court calls attention to the admonition of Mr. Justice Jackson in *Interstate Commerce Commission v. Jersey City*, 322 U.S. 503, l.c. 514, as follows:

> "One of the grounds of resistance to administrative orders throughout federal experience with the administrative process has been the claims of private litigants to be entitled to rehearings to bring the record up to date and meanwhile to stall the enforcement of the administrative order . . . If upon the coming down of the order, litigants might demand rehearings as a matter of law because some new circumstance has arisen, some new trend has been observed, or some new fact discovered, there would

> be little hope that the administrative process could ever be consummated in an order that would not be subject to reopening".

Turning specifically to the Missouri statutes and decisions, Section 386.510 provides:

> "No new or additional evidence may be introduced upon the hearing in the circuit court but the cause shall be heard by the court without the intervention of a jury on the evidence and exhibits introduced before the Commission and certified to by it."

In the recent decision *Union Electric v. Clark*, 511 S.W.2d 822, the Missouri Supreme Court said:

> "We conclude that the Legislature has provided a separate statutory procedure for the review of an original order or decision of the Commission; . . . and that the procedure provided for in Section 386.510 is exclusive and jurisdictional." (l.c. 825).

This Court therefore rules that the motion is not well taken and that this case must be decided solely upon the record certified to it by the Commission.

Even though the Court considers relator's motion legally unsupportable, the motion completely lacks substance. The prepared testimony of Dr. Hoeppner does not contradict the testimony of his four colleagues. In fact, it supports that testimony, and on the safety aspects to which relator refers, Dr. Hoeppner specifically disclaimed extensive knowledge and deferred to the testimony of Drs. Loyalka and Timmons. Also, Dr. Hoeppner's prepared testimony shows on its face that he had been approached by Union Electric for consultation in another case. This presented a possible conflict of interest and was the reason the Commission Staff did not call him. Clearly the Staff acted properly in not calling Dr. Hoeppner as an independent witness. The affidavit of one of relator's counsel that Dr. Hoeppner

might have testified differently on cross-examination approaches the ridiculous. As a minimum, an affidavit of the witness himself is required. See *Womach v. McCullough* (Mo. Sup.) 358 S.W. 2d 66 and *Fidelity & Casualty Co. v. Western Casualty Co.* (St. L. Ct. of App.), 337 S.W.2d 566. As a matter of fact, Dr. Hoeppner was approached by relator's counsel, and refused to give an affidavit.

Referring to the claim that the four University of Missouri Professors did not detail in their testimony all of the ways that Union Electric provided monetary assistance to the University, there is no reason to think that they knew all of the University's administrative activities. From their testimony, and extensive cross-examination, the Court finds no indication whatever that their testimony was not completely candid.

The Westinghouse Electric announcement as to its nuclear fuel contract with Union Electric is totally outside the record and need not be considered by the Court.

Summarizing this case on the merits, the Court is of the opinion that on the record made before it, the Commission's decision was clearly the correct one, and a contrary decision probably could not be judicially upheld.

This Court finds and hereby holds that relator's motion must be and is denied. Further the Court finds and hereby holds that the Commission's Order to permit Union Electric to construct the proposed nuclear plant in Callaway County must be and is affirmed.

/s/ ROBERT LEE CAMPBELL, Judge

Dated this 7th day of January, 1976

FOOTNOTE: In the event of appellate review, all ink marks in the transcript were there when received and not added by the Court. Also, it is respectfully recommended that the transcript be read in the following order: Volume 1, Volume 4 through 8, and then Volumes 2 and 3.

APPENDIX E

PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

No. 18,117

In the Matter of the Application of Union Electric Company for Permission and Authority to Construct, Operate, and Maintain a Multi-Unit Nuclear Steam Electric Generating Plant in Callaway County, Missouri.

March 14, 1975

Report and Order

I. Introduction

On June 7, 1974, Union Electric Company of St. Louis (hereinafter referred to as "Company") submitted to the Missouri Public Service Commission (hereinafter referred to as "Commission") an Application for permission and authority to construct, operate and maintain a multi-unit nuclear steam electric generating plant in Callaway County, Missouri. Upon proper application, the following parties were granted intervention: City of St. Louis, Missouri; Utility Consumers Council of Missouri (UCCM); Coalition for the Environment, St. Louis Region; General Motors Corporation-General Motors Assembly Division; McDonnell-Douglas Corporation; Monsanto Company; PPG Industries, Inc.; and Anheuser-Busch, Inc.

After the issuance of due notice to the public, local public hearings, including evening sessions, were held in Jefferson City,

Missouri, on October 17, 1974, and in Clayton, St. Louis County, Missouri, on November 12, 1974, for the purpose of receiving testimony from members of the public regarding the Callaway Plant. The Commission did not receive requests for public hearings in any other areas. Prehearing conferences were held in Jefferson City, Missouri, on August 28, 1974, and October 17, 1974.

Pursuant to our Orders issued September 3, 1974, and September 5, 1974, Company submitted all of its testimony and exhibits in prepared form to the Commission and served copies on all of the parties. On September 26, 1974, UCCM and the Public Counsel submitted their testimony and exhibits serving copies on Company and the other parties. The Missouri Public Service Commission Staff (hereinafter referred to as "Staff") filed its prepared testimony and exhibits on October 10, 1974.

On October 28, 1974, evidentiary hearings began and, after approximately fifteen (15) days of extensive day and nighttime sessions, were concluded on November 21, 1974. Briefs were filed by the parties and Oral Argument was held before the Commission on February 7, 1975. The record is extensive and consists of more than 3600 pages of testimony and 99 exhibits.

Because of the importance and magnitude of this decision, the Commission has elected to set forth herein a summary of the testimony submitted in this case. It is hoped that through this summary the lay reader, press, and future Commissions will have a better understanding of the evidence presented in this case.

II. Testimony of Witnesses

A. Witnesses for Company

Charles J. Dougherty, President and Chief Executive Officer of Company:

Mr. Dougherty stated that Company proposes to build two 1150 megawatt nuclear power units to be ready for operation in 1981 and 1983. Due to the long lead time, long-term contracts have been entered into with Westinghouse Electric Corporation for nuclear steam supply systems and nuclear fuel, General Electric for the turbine generators, and the Atomic Energy Commission for fuel enrichment services. The units will be duplicate standardized units designed by Bechtel Power Corporation for SNUPPS (Standardized Nuclear Unit Power Plant System), a joint endeavor by five utilities, to design, purchase and license five standardized nuclear power units. This standardized approach was utilized (1) to avoid unnecessary duplication; (2) to provide savings in engineering and manpower costs; and (3) to provide economies in procurement of equipment and materials through bulk purchases.

Company's decision to construct a nuclear plant was made after considering coal as the only practical alternative energy source. Mr. Dougherty testified that although the initial cost of a nuclear power plant is higher than that of a fossil-fired plant, the nuclear plant results in a lower overall generating cost primarily because of the lower annual fuel cost.

Hydro, pump storage, solar, windmill and other energy sources were rejected as they could not be sufficiently developed to serve as practical energy alternatives.

H. Clyde Allen, Director of Corporate Planning of Company:

Mr. Allen testified to Company's current and projected generating capacity through 1984, the need for additional generation and the costs of various energy sources for the generation of electricity. Mr. Allen testified that Company was required by law to insure sufficient generating capacity to meet the demands of customers both now and in the future. He forecasted peak loads on Company's system as follows:

1981—7,786 megawatts

1982—8,226 megawatts

1983—8,859 megawatts

1984—9,407 megawatts

Company's forecasting method consisted of the following phases:

1. Adjusting actual peak loads to a standard temperature measure;
2. Separating the adjusted peak loads into base load and weather sensitive load components;
3. Projecting the two components separately to the period included in the forecast; and
4. Recombining the components into the total forecast peak load period.

The variables used in his analysis were time, gross national product and actual experience of Company during the period 1958 to 1973. Company's forecast projected a base load growth rate of approximately 5.8 percent per year through 1984. Although weather sensitive load or peak load has been growing at a rate in excess of ten percent (10%) over the last fifteen (15) years, Company predicted a saturation point would be reached by 1984. Thus, the growth of weather sensitive load will occur at a decreasing rate over the next ten years. The combination of stable growth in the base load and declining growth in the weather sensitive load is expected to produce a rate of growth of total peak load declining from over six percent (6%) in the 1974-76 period, to between five percent (5%) and 5.5 percent during the late 1970's and early 1980's. The compound growth rate was estimated to be 5.6 percent through 1984. This was a conservative projection since Company's system has heretofore been growing at a rate in excess of seven percent (7%) compounded on an annual basis.

Mr. Allen further analyzed the costs of practical alternative energy sources for the generation of electricity. Mr. Allen submitted Exhibit No. 18 showing annual cost comparisons where a nuclear plant was compared with a coal-fired plant using sulphur dioxide scrubber equipment and a coal-fired plant designed to burn low sulphur coal. In all comparisons made at equivalent capacity factors, nuclear generating capacity was more economical than coal-fired generating capacity. The calculations showed that the nuclear alternative was still the preferred choice when operating at a fifty-nine percent (59%) capacity factor as compared with a coal-fired plant operating at a sixty-seven percent (67%) capacity factor.

Donald F. Schnell, Manager of Nuclear Engineering for Company:

Mr. Schnell testified that the plant installation will consist of two identical units using pressurized water reactors (PWR) manufactured by Westinghouse Electric Corporation. The nuclear steam supply system (NSSS), manufactured by General Electric, consists of four steam generators along with the reactor to convert water to steam using reactor heat. Bechtel Power Corporation is the architect-engineer responsible for the overall design of the plant. Site related systems including cooling towers, water intake and discharge facilities, railroad spur and access road will be designed by Sverdrup and Parcel and Associates of St. Louis. There will be approximately twenty-seven (27) similar nuclear plants in operation throughout the United States prior to start-up of the proposed plant. Company estimates the total cost of the plant to be 1.75 billion dollars.

Mr. Schnell stated that a seventy to eighty percent capacity factor could be expected in the plant after a two to three year break-in period. During initial operation, however, a fifty to sixty percent capacity factor would be normal.

Mr. Schnell stated that major construction activities are scheduled to commence early in 1976. Peak construction forces of 2000 to 2400 workers are expected by 1980 with an average of about 1200 over the construction period. Unit one is expected to be completed in June, 1981. Unit two will follow in December, 1982, and with service to commence in April, 1983. The plant will be used as a base load plant for Company's system. The planned operating lifetime will be at least thirty years. Company projects a permanent operating staff of about 130 personnel.

Mr. Schnell testified that the plant site will be located approximately five miles north of the Missouri River and one-hundred miles west of St. Louis in Callaway County, Missouri, near the community of Reform, approximately ten miles southeast of the City of Fulton. The area consists of about 3200 acres for the plant and another 1600 acres of peripheral land. In addition, a 1750 acre corridor was acquired to provide road, rail and water access from the plant site southwardly to the Missouri River flood plain. The acreage acquired will be sufficient to support the addition of two more units should the need for additional generating capacity so dictate. No historic or archaeological sites will be destroyed or impaired by the construction or operation of the proposed plant.

Mr. Schnell further testified that prior to the issuance of a construction permit or an operating license for a nuclear plant, the United States Atomic Energy Commission (AEC) is required to assess the potential environmental effects of each proposed plant in order to assure that issuance of the permit or license will be consistent with national environmental goals, as set forth by the National Environmental Policy Act of 1969. The Atomic Energy Commission requires each applicant to submit a report on the potential environmental impacts of the proposed plant and associated facilities. Dames and Moore was retained by Company as a consultant to perform environ-

mental studies at the plant site. These studies, initiated in the spring of 1973, culminated in the preparation of the plant environmental report which was submitted to the AEC for review on June 1, 1974, and was accepted by them for docketing and detailed review on July 30, 1974. The environmental report incorporates input from numerous experts within Dames and Moore in such fields as aquatic and terrestrial biology, hydrology, meteorology, geology and demography.

All personnel assigned to the plant will be required to undergo comprehensive training. Continuing training will be provided on a scheduled basis so that employees maintain job proficiency. Re-training and re-qualification will be required every two years to keep plant operators abreast of new information and technology.

Mr. Schnell stated that early in 1974 Company entered into a twenty year contract with Westinghouse Electric Corporation for the supply and fabrication of fuel for each of the plant units. In addition, Company has a firm contract with the AEC to supply fuel enrichment services for thirty years, the expected life of the plant.

Mr. Schnell further testified that the AEC requires each utility planning to build and operate a nuclear plant to file a formal application for a construction permit and operating license. Pursuant to AEC regulations, Company has filed an evironmental report and a Preliminary Safety Analysis Report (PSAR). Company's PSAR is a seven volume report which comprehensively describes all aspects of the plant. It includes a description of plant components and a complete analysis of safeguard systems designed to prevent or mitigate the effects of all postulated accident conditions. Radioactive waste management, plant security and emergency plans are also discussed in depth. The Atomic Energy Commission staff's analysis will be examined by the Advisory Committee on Reactor Safeguards

(ACRS), a group of highly qualified experts in the filed of nuclear reactor safety. The findings of the ACRS are then made public. Following completion of the staff and ACRS review a mandatory public hearing before the Atomic Safety and Licensing Board (ASLB) will take place. At the conclusion of this mandatory hearing, the Board will render an initial determination as to whether a construction permit should be granted or denied. Members of the public, including this Commission, may participate before the Board and present evidence. The decision is subject to further administrative review by an Atomic Safety and Licensing Appeal Board. After examining the preliminary determination made by the ASLB, the AEC Commissioners may then grant permission to proceed with construction of the plant. Following several months of study and review which will include input from the Environmental Protection Agency and other federal and state authorities, the AEC will issue an environmental statement in accordance with the National Environmental Policy Act, which identifies and analyzes the anticipated environmental impact of the proposed facility. Issuance of this report will be followed by public hearings before an Atomic Safety and Licensing Board covering the environmental impact of the plant. Approximately two years prior to completion of the plant, Company is required to submit final drafts of its PSAR and environmental report. Then the entire review cycle is repeated before Company can secure final certification.

In conclusion, Mr. Schnell stated that besides the obvious benefits of meeting the electrical energy needs of Company's customers at the least cost, other benefits will result from construction of the plant, such as increased tax revenues, new jobs, and economic development for the immediate area and entire State.

W. E. Cornelius, Executive Vice President of Company:

Mr. Cornelius testified that the total expected capital expenditure for the nuclear plant is approximately $1,758,000,000.

Company's plans for financing the construction of the plant are through mortgage bonds, unsecured long-term debt obligations, preferred and common stock, as well as internal cash flow. Company expects to use environmental improvement revenue bonds as authorized by law. All financing will be submitted to the Commission and all other federal and state regulatory agencies for their approval as required by law. Company intends to maintain the proportion of long-term debt, preferred stock and common equity that now exists throughout the ten-year time span of the construction of the plant.

B. **Public Service Commission Staff Witnesses.**

Pursuant to a contract between the curators of the University of Missouri-Columbia and the Missouri Public Service Commission, the Nuclear Engineering Staff of the University of Missouri was hired as consultant to the Commission concerning the nuclear plant. This was done to provide the Commission testimony by unbiased, objective experts unconnected with the case.

Walter Meyer, Professor and Chairman of Nuclear Engineering at the University of Missouri-Columbia:

Dr. Meyer considered (1) the technical feasibility within the time frame in which new generation capacity is required; (2) the reliability of a particular method; (3) the cost of generation; and (4) the future availability of necessary fuels. He concluded that the only means of power generation, other than the use of fossil fuels, that is technically feasible within the permissible time frame would be the nuclear plant. He stated that from an overall cost standpoint the nuclear option, though involving a larger capital expense, possesses a decided advantage over fossil

fueled units. This conclusion was based on tabulations compiled by the Atomic Industrial Forum, Southern California Edison Company, Commonwealth Edison of Chicago and Arthur D. Little, Incorporated.

Darrell H. Timmons, Associate Professor of Nuclear Engineering at the University of Missouri-Columbia:

Dr. Timmons' testimony involved the safety related issue of reactor coolant system (RCS) pressure boundary integrity and the AEC's procedures for obtaining a construction permit and operating license. He stated that the design of the RCS pressure boundary is in accord with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section III, "Rules for the Construction of Nuclear Power Plant Components". In summary, it was Dr. Timmons' opinion that the health and safety of Missouri citizens will be adequately protected insofar as possible within the current "state of the art" engineering-design methodology, by the procedures and rules of the U.S. Atomic Energy Commission.

Sudarshan Loyalka, Associate Professor of Nuclear Engineering at the University of Missouri-Columbia:

Dr. Loyalka studied the most recent safety analysis issued by the AEC, commonly referred to as WASH 1400. This study was headed by Professor Rasmussen of MIT and involved a total of sixty (60) people, fifty (50) man-years of effort and three million dollars. The basic conclusion of this study was that the risks to the public from potential accidents in nuclear power are very small. The likelihood of a single fatality per year due to all possible accidents in the proposed plant can be estimated as one in 300,000,000 and the chance of a single injury per year is only one in 150,000,000. Dr. Loyalka testified that the proposed plant is designed on the basis of the most current "state of the art" and meets the most stringent criteria established by the AEC.

Stanley R. Bull, Associate Professor of Nuclear Engineering at the University of Missouri-Columbia:

Dr. Bull was charged with examining Company's environmental report to determine if it is consistent with the regulations of the National Environmental Policy Act of 1969. He concluded that no unexpected environmental affects are anticipated as a result of site preparation and construction phases. Dr. Bull suggested, however, that periodic surveillance by appropriate state agencies be made to insure that the environmental regulations are adhered to on a continuing basis.

With regard to radioactive effluents, Dr. Bull stated that Company's predictions of liquid and gaseous radioactive effluents are realistic and well within allowable limits. The allowable standard for radiation emission from the operation of nuclear power plants is 15 millirem per year. According to Company's environmental report, the maximum exposure from the proposed plant would be approximately 4 millirem per year. It is the opinion of Dr. Bull that this level of exposure would have virtually no observable effects on biological structures. Finally, the total manrem exposure to the population within a 50-mile radius due to natural and medical sources will be increased by .004 percent.

Dr. Bull stated that Company had initiated a comprehensive preoperation monitoring program to obtain base line levels of radiation in selected critical pathways leading to man. Company has also developed a monitoring program to record the release of radioactive materials to the environment and has a detailed emergency plan. His review found that all of these safeguards are in conformance with AEC requirements.

Ernest G. Ellingson, Chief, Office of Economic Research, Missouri Public Service Commission:

Mr. Ellingson testified with regard to the economic feasibility of the proposed plant. In developing his analysis he first assumed that the only feasible alternative to a nuclear plant was a coal-fired plant. His cost comparisons were largely based on information provided by Company in its environmental report. Assumptions made by Mr. Ellingson were: (1) a 10.5 percent cost for bonds and preferred stock, (2) a 10 percent rate of inflation for fuel cycle costs until 1982 and seven percent thereafter, (3) a "throwaway" fuel cycle, (4) cooling towers, though installed on the nuclear plant, would not be needed for a comparable size coal plant, and (5) an additional $150,000,000 of evolutionary costs for additional retrofit safety requirements for the nuclear plant. All of these assumptions would, to some extent, bias the cost comparisons in favor of the coal plant. Nevertheless, Mr. Ellingson in his amended testimony concluded that from a cost per kilowatt-hour standpoint, the nuclear plant would result in a lower overall cost for producing electricity. The reason for this result was the fuel cost advantage enjoyed by the nuclear plant. Mr. Ellingson had access to Company's fuel contract as a result of his written agreement not to disclose proprietary contract data. He stated that in his opinion the contract was extremely beneficial to Company and its customers because it has been entered into prior to recent escalation in nuclear fuel costs which would increase fuel costs by 50 to 100 million dollars.

Kenneth M. Karch, Director, Division of Environmental Quality, Department of Natural Resources, State of Missouri:

Mr. Karch, who is responsible for administering the state's programs in air and water pollution control, reviewed Company's environmental report and testified that the plant as proposed would meet State Air and Water pollution control regulations.

Kenneth H. Anderson, Geologist and Chief of Subsurface Geology-Oil and Gas Section in the Office of State Geologist of the Missouri Department of Natural Resources:

Mr. Anderson reviewed the Standard Nuclear Power Plant System Report prepared by Dames and Moore, Consulting Corporation for Company. In his prepared testimony Mr. Anderson expressed two concerns: (1) buried karst topography and its possible relationship with dispersion of surface connected contaminance and (2) seismic risk and the nature and age of faulting in the area. Upon cross-examination, his concerns were alienated after conferring with other recognized seismology experts.

George P. Dellinger, Superintendent of the Wildlife Management Section of the Department of Conservation:

As a representative of the Missouri Department of Conservation, Mr. Dellinger's testimony centered on the Preliminary Land Use Study for the plant. Mr. Dellinger testified that his department attempted to coordinate the inventory of public needs and to recommend uses to serve those needs. Pending resolution of boundaries of security areas, the Department of Conservation and Company will enter into a lease agreement of the land dedicated to the public use.

Kenneth J. Nemeth, Director of Intergovernmental Programs, Southern Interstate Nuclear Board:

Mr. Nemeth's testimony was given on behalf of Representative James Russell, Chairman, and Members of the Missouri Atomic Energy Commission (MOAEC). He outlined certain aspects of state planning, public health and safety and other areas requiring state action. He recommended state legislation on radiological health, state and regional emergency response planning, power plant siting, environmental surveillance and monitoring, and radioactive waste disposal.

C. **Public Counsel Witness**

Harold L. Rosenthal, Professor of Physiological Chemistry at Washington University School of Dentistry in St. Louis, Missouri:

It was Dr. Rosenthal's testimony that, having been involved in the field of physiological chemistry and radio-biology, any increase in radiation, no matter how small, would have deleterious affects. Dr. Rosenthal concluded that radiation is acutely damaging to cellular activity and genetic stability making it mandatory that radiation damage be kept to a minimum or eliminated completely.

D. **Intervenor, Utility Consumer Council of Missouri (UCCM), Witnesses.**

Henry W. Kendall, Professor of Physics at the Massachusetts Institute of Technology:

Dr. Kendall testified on the safety aspects of a nuclear power plant and the reliability of the emergency core cooling system (ECCS). In Dr. Kendall's opinion the risk of loss of a coolant accident (LOCA) is substantial and the back-up coolant supply provided by the ECCS has not as yet been tested. Thus, since there is no evidence that the ECCS will perform satisfactorily, there is sufficient reason for disallowing the construction of the nuclear power plant. In addition, he stated that the regulations and requirements established by the AEC do not remove completely the possibility of an accident, but merely reduce such possibility to an acceptable frequency level. Dr. Kendall also testified that substantial problems exist with respect to waste storage and disposal giving rise to the possibility of leaks or theft by terrorist groups and that the authority should be denied on these grounds.

James J. MacKenzie, Member of the Joint Scientific Staff of the Massachusetts and National Audubon Societies, and Chairman of the Union of Concerned Scientists Fund, Inc.:

Dr. MacKenzie directed his testimony at some of the difficulties and uncertainties in relying on nuclear fuel for electric power generation. He stated that even though Company may have a 20-year contract with Westinghouse Electric Corporation for the supply of uranium, domestic supplies of uranium may still fall short by the early 1980's. He claimed a current shortage of fuel enrichment capacity which could only be alleviated by private industry entering the field of fuel enrichment or by the use of recycled plutonium. The likelihood of privately owned enrichment plants is remote due to the prohibitive cost involved and plutonium recycling creates additional costs for improved security systems to guard against theft by terrorists. Finally, in order to conserve the use of uranium, spent fuel is reprocessed and uranium and plutonium are extracted for reuse; unfortunately, no such commercial reprocessing plant is currently in operation. Consequently, it was Dr. MacKenzie's conclusion that a nuclear power plant cannot be relied upon, at present, as a secure source of electric power because the supply of fuel may not be assured. On cross-examination as to known domestic uranium reserves, Dr. MacKenzie admitted that they were sufficient to meet the aggregate industrial requirements of the country through 1990.

Barry Commoner, Director of the Center for the Biology of Natural Systems, Washington University, St. Louis, Missouri:

Dr. Commoner testified that electric power demand can be reduced without substantially altering our standard of living. One of the conservation measures suggested by Dr. Commoner was to improve power productivity by improving the ratio between industrial power consumption and industrial output. As an example, Dr. Commoner revealed the impact on total in-

dustrial energy consumption were the automobile industry to substitute steel for aluminum in the manufacture of cars.

He advocated more efficient use of power by household appliances such as the use of regular refrigerators over frost-free and more efficient air-conditioners. Dr. Commoner proposed that Company give away more efficient air-conditioners in return for the customers old, less efficient ones, which would eliminate the need for new generating facilities.

Dr. Commer's testimony further suggested that alternatives to nuclear energy do exist. Solar energy is available now, at least on an individual home-heating basis. He acknowledged, however, that this would only provide supplemental power and a "base" supply of electricity would still have to be maintained by conventional means. In conclusion, Dr. Commoner stated that consumers, both industrial and individual, have the means to manipulate the size of the demand in the future and that these means will be employed more and more as the cost of services increases, so that usage and demand will shrink accordingly.

Sheldon Novick, Editor of Environment Magazine:

Mr. Novick's expertise was developed in the review of a large number of scientific and professional publications concerning nuclear power and electrical power generation and through continuing contact with many of the individuals who play a prominent role in the worldwide debate over nuclear power. Mr. Novick's concerns included the future supply of nuclear fuel, particularly enrichment services, the reliability of nuclear plants, the possibility of shutdowns due to accidents, and the need for additional capacity if the demand decreases as the cost of power increases. Mr. Novick also suggested that CANDU reactors, high temperature gas cooled reactors and fuel cells might prove to be better alternatives of power generation than the proposed nuclear plant.

On cross-examination Mr. Novick stated that he was unaware that Company had a 30-year contract with the AEC for the supply of fuel enrichment services. Mr. Novick agreed that he was not an expert in the field of nuclear energy and was unfamiliar with the alternative power generating devices.

Robert L. Sorensen, Assistant Professor of Economics at the University of Missouri-St. Louis:

Dr. Sorensen questioned Company's forecasting model claiming it failed to adequately consider underlying factors influencing electric demand (i.e. the cost of electricity, the price of substitutes, the level of real income, population and the level of industrial output). Contrary to Company's approach, Dr. Sorensen predicted an increase in the real cost of electricity and a decline in population growth. He advocated the use of an econometric model to forecast future load growth. If the demand for electricity is price elastic and the real price of electricity is going to increase, the future demand would correspondingly drop.

Dr. Sorensen testified that the model employed by Company had a poor track record with respect to prior predictions and thus forecasts made during two prior rate increase applications by Company show an upward bias in the future demand. Where Company predicts a 5.5 percent growth rate, Dr. Sorensen predicted such increase would be more on the level of 4 percent. On cross-examination, Dr. Sorensen admitted that the figures he used for the increase of real price of electricity was a national estimate which was approximately twice that predicted for the specific area that Company services. Following extensive cross-examination, he concluded that Company's growth estimates were reasonable and acceptable.

The Commission has thoroughly reviewed all of the evidence submitted by all parties. Taking into consideration all

of this testimony including that submitted by the Company, the Staff of the Commission, the Public Counsel and the Intervenors, we make the following findings of fact and conclusions of law.

II. Findings of Fact

The Missouri Public Service Commission, having given due consideration to all the competent and substantial evidence upon the whole record of the case, and not on the preceding summary, makes the following findings of fact:

A. General

1. **Jurisdiction.** Company is a Missouri corporation authorized to operate as a public utility in the business of the generation and supply of electrical energy as defined by Section 386.020(25) Revised Statutes of Missouri 1969, and is subject to the Commission's jurisdiction pursuant to Chapter 393, RSMo 1969. The Commission, pursuant to statute, must give its permission and approval before an electric utility may begin construction of an electrical plant. In addition, the Commission must approve all financings issued by Company for the construction of a plant.

2. **Company.** Company is authorized to operate as a public utility in the business of the generation and supply of electrical energy in the States of Missouri, Illinois and Iowa. Company's territory served in Missouri includes the City of St. Louis, St. Louis County, and portions of five adjacent counties; St. Charles, Franklin, Jefferson, St. Francois and Ste. Genevieve; and portions of Miller, Morgan and Camden Counties in central Missouri.

The population of Company's service area is estimated at 2,225,000 and it had approximately 735,000 electric customers

as of June 30, 1974. In addition to electric service, Company provides steam heating service in downtown St. Louis to approximately 500 customers and distributes natural gas to approximately 17,000 customers in Alton, Illinois, and vicinity.

At the time of the hearing, Company owned two electric utility subsidiaries. Missouri Power & Light Company provides electric and gas utility service to the public in more than thirty counties in central and northwestern Missouri, serving an estimated population of approximately 200,000. As of June 30, 1974, it had approximately 85,000 electric and 35,000 gas customers. Missouri Edison Company provides electric and gas service in portions of five counties in eastern Missouri bordering the Mississippi River. The population of Missouri Edison service area is approximately 75,000 and as of June 30, 1974, it has approximately 27,000 electric and 6,000 gas customers.

Company is a member of one of the nine regional electric reliability councils organized for coordinating the planning and operation of the nation's bulk power supply—MAIN (Mid-America Interpool Network) operating primarily in Wisconsin, Illinois and Missouri. Company also is a participant in the Missouri-Illinois power pool under which firm and reserve capacity is available to the participants pursuant to an interconnection agreement.

B. Proposed Plant

1. **Plant Site.** Company selected the proposed site after an extensive eighteen month review of potential sites over a 110,000 square mile area including the entire State of Missouri and adjoining areas in southern Iowa, western Illinois, and northern Arkansas. The primary site selection factors were water supply, existing land use, population distribution, topography, and seismology. Other limiting site selection factors included the need to

conform to the Nuclear Regulatory Commission's (prior to January 1, 1975, this agency was known as the Atomic Energy Commission) seismic criteria, the presence of State and National parks and forests, and streams designated as wild or scenic rivers.

The proposed plant site area consists of approximately 3,200 acres with approximately 1,650 acres of peripheral land to serve as a buffer zone. In addition, a corridor for road, rail and water access extends from the plant site southerly to the Missouri River consisting of approximately 1,750 acres. The nearest historic or archeological site is approximately three miles from the proposed plant site and neither it nor any other such site will be impaired by the construction or operation of the proposed plant. Company submitted unrefuted evidence of the Director of Parks and State Historic Preservation Officer stating that the plant does not pose a threat to any known historic or archeological site. The plant will meet present state air and water pollution control regulations.

Company has undertaken a detailed environmental monitoring program to fully evaluate the environmental characteristics of the site. This information has been submitted to the Nuclear Regulatory Commission and a draft statement has been issued, in which the Commission's Staff concluded that a construction permit should be granted. The five volume "Environmental Report" was admitted in evidence and reviewed by Staff and the Commission in this case.

In summary, measures will be taken to minimize the impact on the environment during construction and operation of the proposed facilities. Controls will be utilized to prevent adverse effects upon local water quality. Incidents of air pollution during construction will be minimized by controls such as seeding, prohibition of unsupervised burning, use of dust collectors and dust control on roads. Waste heat will be dissipated into the atmosphere by the use of cooling towers.

A thorough review of the record establishes that the construction and operation of the proposed plant should result in no environmental harm. We find that the proposed site is suitable for the construction of an electric generating plant and that adequate precautions will be taken by Company during the construction and operation of the plant for protection of the environment. However, we question the extensive land acquired for the plant and shall require Company, at the discretion of the Commission, to provide the Commission with a utilization study to determine what portions, if any, should not be included in rate base.

2. **Description.** Company proposes to construct two identical units at the site, each utilizing a pressurized water reactor (PWR). Each nuclear steam supply system (NSSS) will be manufactured by Westinghouse Electric Corporation and will include four steam generators along with the nuclear reactor to convert water to steam using reactor heat. Each NSSS will have a rated thermo power level of 3,425 megawatts and will produce steam at 1,000 psig, 600 F° to drive the turbine generator. The turbine generator for each unit will be manufactured by General Electric Company and will consist of an 1,800 rpm tandum-compound, 6-flow, 2-stage reheat turbine coupled to a generator with a net electrical output of approximately 1,150 megawatts per unit.

The first unit is expected to be in operation in October, 1981, and the second unit is expected to be in service in April, 1983. The plant will be interconnected with the transmission and distribution system of Company by means of substantial transmission facilities, in order that the electric energy to be generated can be utilized to the greatest advantage of the consuming public.

C. Need for Additional Capacity

The need for the proposed plant to meet present and future demands for service was established by Company. The present generating capacity of Company's total system is 6,022,000 kilowatts and Company now has under construction two 600,000 kilowatt coal-fired units at the Rush Island site, pursuant to the authority granted by this Commission in Case No. 17,139. This Commission has an obligation, if not a duty, to insure that utilities under our jurisdiction meet their responsibility to adequately serve the needs of the public in their service area both now and in the future. Sufficient generating capacity to meet these needs must exist at all times. Consideration must be given to estimated peak loads, base loads, and required generating reserve. In order that necessary capacity is available in the future, Company must project its expected system peak demand into the future to cover lead times required for the construction of new facilities. During the hearings in this case Company's growth rate and future load predictions were challenged by Staff and Intervenors. Company's system load has been growing at a rate in excess of seven percent (7%) compounded annually. Mr. Allen testified in detail to Company's forecasting methodology which explicitly considers two variables: (1) time and gross national product; and (2) the informed judgment of the forecaster. Consideration was given to such factors as the effect of price on demand, price of substitute sources of power, population and family formations, level of real income and level of industrial output. UCCM's witness, Sorensen, challenged the validity and reliability of the model employed by Company, however, on cross-examination it became clear that Dr. Sorensen's expertise in this area was at best, limited. Dr. Sorensen admitted that the econometric model he proposed would provide no greater predictive reliability. Staff witness, Dr. Meyer, also stated that Company forecast model could be criticized, however, no alternative model would be more accurate or reliable than Company's. The Commission concludes that the model utilized is reasonable and that Company's predictive methods are proper.

The growth rate predicted by Company was 5.6 percent per year compounded through 1984 which is significantly lower than Company's past experience and one of the lowest predicted rates of growth in the entire electric industry. Intervenors contend said growth rate should be lower because of conservation measures taken at both the industrial and individual consumer levels, particularly where the real price of electricity is increasing. The Commission has no jurisdiction over Company's industrial or individual customers and the currently impractical measures such as those suggested by Dr. Commoner for redirecting the use of aluminum and steel in the production of automobiles is completely beyond the jurisdiction of this Commission. Moreover, the evidence shows that while there is a potential for energy conservation, a larger potential for shifting energy demands to electricity exists, tending to increase, rather than decrease, the loads to be expected by Company in the future. In addition, it is important to differentiate between conservation effects on the customers total kilowatt-hour usage and the kilowatt-hour peak, which must be the determining factor for planning capacity additions. Thus, while many customers conserve during part of the summer during off-peak periods, on the hottest day during the peak, they insist on air-conditioning usage. In summary, the record reveals that the effects of conservation have been properly considered by Company and the competent and substantial evidence on the record establishes that conservation is not a viable alternative to additional generation capacity and the construction of the proposed plant.

Furthermore, the Commission is cognizant that Company's reserve capacity requirements constitute an important element in assessing future reliability of service. Mr. Allen stated that a reserve margin of eighteen percent (18%) is reasonable and necessary. Company's projected adjusted demand for the sum-

mer of 1982 is 7,787 megawatts. The adjusted capacity, including unit one of the proposed plant would equal 9,271 megawatts and provide a reserve margin of 19.1 percent. Without the first unit in service, the adjusted capacity available in 1982 would be 8,121 megawatts, a reserve capacity of 4.28 percent. In 1983 and 1984 Company would experience base load capacity deficiencies of 138 megawatts and 656 megawatts respectively if the proposed plant is not built resulting in Company's inability to meet customer demands. If the capacity represented by the proposed plant is not available, less efficient and higher cost generating capacity would have to be utilized to make up the deficiency.

In conclusion, the Commission finds that based on a complete analysis of all evidence in the record, that Company's forecasts of peak load demand in the 1982 to 1984 time period are reasonable. We conclude that without the capacity represented by the proposed plant, Company will have reserve deficiencies in 1982 and capacity deficiencies in 1983 and 1984. Accordingly, we find that the capacity represented by the proposed plant is needed if Company is to continue to meet the electrical needs of the public in the area in which it serves.

D. **Economics—Nuclear v. Fossil**

Company contended it elected to build a nuclear plant to meet future base load capacity because it is cheaper to the ratepayer over the life of the plant. Although other methods were advocated, the only practical alternative to nuclear power generation is a coal-fired plant. Company submitted Exhibit No. 18, a detailed cost comparison analysis of coal and nuclear plants.

In estimating the capital costs of a plant Company used an escalation rate of construction costs of seven percent (7%) per

year. Cost of capital was estimated at 14.26 percent, reflecting an eight percent (8%) return on preferred stock and a 13.75 percent return on common equity. Its most recent cost estimate for the nuclear plant was $1,758,000,000 or $768 per kilowatt of installed capacity. The cost of a comparable fossil fuel plant was submitted under two hypotheses: (1) that sulphur dioxide scrubbing equipment would be required, and (2) that low sulphur fuel would be used. Thus, based on cost data available for Company's Rush Island units, the cost of the two types of coal plants were estimated at (1) $685 per kilowatt and (2) $615 per kilowatt (the difference of $70 per kilowatt represents the net cost of installing scrubbers). The cost of nuclear fuel was projected to be 2.47 mills per kilowatt-hour. The cost of fossil fuel for 1982 operation was estimated at (1) 12.9 mills per kilowatt-hour for high sulphur coal and (2) 7.5 mills per kilowatt-hour for low sulphur western coal. Annual costs for both methods of generation were calculated at capacity factors varying from eighty to fifty-nine percent in the case of nuclear capacity and eighty to sixty percent for fossil capacity.

Challenges to the parameters employed by Company included: (1) that the fixed charge rate was too low; (2) that the escalation rate was unrealistic and therefore capital expenditures were underestimated; (3) that evolutionary costs were not considered which also would result in an underestimated capital expenditure; (4) that the cost of nuclear fuel was underestimated; (5) that the reliability of a nuclear plant is less than that of a coal plant and thus comparing the two units at the same capacity factor is unrealistic; and (6) that the cost of decommissioning the nuclear plant at the conclusion of its useful life is not included in Company's cost comparison. Other challenges were made but do not bear comment because they were unsubstantiated.

The Commission's Chief of Economic Research, Mr. Ellingson, conducted an independent cost comparison utilizing cost

data greater than supplied by Company. Thus, the cost of bonds and securities was inflated from Company's figure of eight percent (8%) to 10.5 percent. Fuel cycle costs were escalated at a rate of ten percent (10%) a year until 1982 and seven percent (7%) thereafter. Other assumptions made were: (1) a "throw away" nuclear fuel cycle; (2) cooling towers, though installed on the nuclear plant, would not be required with the coal plants; and (3) evolutionary costs of $150,000,000 for additional retrofit safety requirements for the nuclear plant. Even with these increased adjustments, the nuclear plant was the preferred alternative from an overall cost standpoint. Indeed, Mr. Ellingson unequivocally testified that he could find no conditions under which a coal-fired unit would be more economical than the nuclear alternative.

Company's Exhibit No. 41, prepared at the request of UCCM, attempted to compare the capital cost per kilowatt of both types of facilities where the escalation rate was higher than seven percent (7%) per year. It became apparent that the higher the escalation rate, the less the difference in capital cost would be for a nuclear plant as opposed to the coal-fired alternative. This is so because the increased rate of escalation more adversely affects the coal-fired plant since major capital expenditures are subject to long periods of escalation. Thus, the coal-fired plant has a shorter construction period and consequently more of its expenditures are made further in the future and thus subject to greater escalation.

Company's cost projection of the proposed plant was developed by Bechtel Power Corporation, the architect-engineer responsible for the standardized nuclear plant. Bechtel has been the architect-engineer for over half of all nuclear plants built in this country and their experience in the design and construction of nuclear facilities is substantial. Their cost projections were supported by two independent studies conducted by A. D. Little Company, a nationally known consulting engineering firm.

During the course of the hearings, UCCM and Public Counsel challenged the validity of Company's fuel cost data because they had not been presented into evidence. Company and Westinghouse Electric Corporation had previously entered into a contract for the supply of the nuclear steam supply system and nuclear fuel. The contract had a non-disclosure provision which if violated would vitiate the contract and any cost benefits to Company which may have existed would be lost. All parties to the proceeding were offered the opportunity to view the contract upon the execution of a non-disclosure agreement. This offer was declined by Intervenors and Public Counsel. As an alternative, Company offered to present the evidence in an in camera proceeding. The Commission knows of no statutory authority permitting an in camera proceeding.

However, Staff witness, Mr. Ellingson, did examine the fuel contract after individually executing a non-disclosure agreement. Mr. Ellingson testified that, based on the price for nuclear fuel as set forth in the contract, the nuclear plant was far more advantageous to the ratepayer and produced power at a lower cost per kilowatt-hour. He testified that in his opinion the existing fuel contract was extremely favorable to Company and could not be duplicated at present day nuclear fuel costs.

UCCM contended that the cost analysis presented by Company was faulty. They challenged the validity of the figures used for the cost of nuclear capacity, cost of coal capacity, and fuel costs. However, it is pertinent to note that UCCM presented no evidence in support of their claims. The selection of the type of capacity to be installed is, at first instance, in the realm of the discretion of Company's management. The scope of our review is to determine the reasonableness of the selection made by Company. Based on all of the evidence in the record, we are compelled to reach the conclusion that the most economical way of supplying the increased electrical needs of Company's customers in the future is through the construction of the proposed nuclear plant.

E. **Financing**

The necessary funds for the construction of the plant will be generated through appropriate issues of mortgage bonds, unsecured long-term obligations, preferred stock and common stock as well as internal funds of Company. Company also expects to use environmental revenue bonds as authorized by law. All financing must be submitted to the Commission and other federal and state regulatory agencies for approval as required by law. Intervenors' challenge to proposed financing proved speculative in nature and lacking sufficient evidentiary support. Mr. Cornelius testified that the estimated cost of long-term bonds and preferred stock was approximately eight percent (8%). Although this interest rate is below existing rates, Company's prediction covers a ten-year period. We find an eight percent (8%) cost of money to be reasonable when consideration is given to the fact that a substantial portion of the plant may qualify for tax-free environmental improvement revenue bonds.

In conclusion, we find that Company has developed a reasonable program for raising the capital necessary to construct the proposed plant which would be required in large measure even if the coal-fired plant had been chosen. Furthermore, the evidence in this record clearly establishes within reasonable certainty, Company's ability to obtain the necessary financing. We further note the residual benefits associated with the construction of this plant which will inure to the benefit of Missouri citizens in the form of new job opportunities, increased tax revenues, and overall economic development of the State of Missouri.

F. **Safety**

As stated in our Conclusions of Law, we believe the issue of radiological health and safety is within the exclusive jurisdiction of the federal government and that we are pre-empted from con-

sidering and passing on this issue. However, because the proposed nuclear plant is the first of its kind in the State of Missouri and there is no other agency under Missouri law equipped to consider the safety aspects, we admitted into the record a substantial amount of information in relation to safety. Mr. Schnell and Dr. Bull testified concerning the procedure Company must follow in order to obtain a construction permit and an operating license from the Nuclear Regulatory Commission. Company has already secured from that Commission a Draft Statement in which its Staff concluded that a contruction permit should be granted.

No persuasive challenges were made by Intervenors on the issue of plant safety. The testimony of Intervenors' witnesses was discredited after extensive cross-examination. Staff witnesses Drs. Meyer, Timmons, Loyalka, and Bull presented expert testimony based upon personal experience that the proposed nuclear facility would be safe. Dr. Loyalka analyzed the integrity of the conclusions reached by the Rasmussen Report (WASH 1400) and found them to be accurate. Dr. Timmons examined the reactor coolant system pressure boundary integrity and found that only at a pressure of three times the design pressure would a rupture occur. Finally, with respect to air and water pollution, Staff witness Mr. Karch, Director of the Division of Environmental Quality for the Missouri Department of Natural Resources, testified that the plant, as designed, would operate well within applicable Missouri Clean Air and Water standards.

During the local public hearings a number of independent, concerned citizens expressed apprehension and fear of the safety of the plant, waste disposal, and the increased radiation exposure. In addition, the Commission has received numerous letters from interested citizens on this issue. In this regard, we note that the rules and regulations promulgated by the Nuclear Regulatory Commission prohibits radioactive effluents from ex-

ceeding 5 to 15 millirems per year depending upon the nature of the effluent (a "millirem" may simply be defined as a unit of radiation which is an indicator of the expected biological effect on man).

It should be noted that all citizens of Missouri receive approximately 130 millirems per year from natural sources such as cosmic rays and radioactivity in the soil, building materials, and food. An individual living in the Rocky Mountain area would be exposed to approximately 50 additional millirems per year from natural radiation.

The uncontroverted evidence in this record establishes that at the proposed plant fence line, there would be a maximum radiological exposure of approximately 4 millirem per year from both gaseous and liquid emissions released from the plant. One mile away from the fence line the exposure would be .4 millirems per year; five miles away .04 millirems per year; and approximately ten miles away, in the City of Fulton, Missouri, .004 millirems per year. To place this exposure in realistic perspective, it is commonly known that a chest X-ray emits a minimum of 50 millirems per X-ray and a dental X-ray a minimum of 10 millirems per X-ray. Furthermore, an individual watching color television for two hours per day is exposed to approximately 4 millirems per year. Thus, exposure to radioactive effluents at the fence line is comparable to watching color television for two hours per day per year; or one-tenth of a chest X-ray; or one-half of a dental X-ray. It is also interesting to note, although very infrequently acclaimed, that coal plants emit radioactive effluents approximately equal to those of nuclear plants of comparable size. Company's Exhibit No. 35, taken from the September-October, 1973 issue of *Nuclear Safety*, Volume 14, No. 5, in an article by L. B. Lave and L. C. Freeburg, entitled "Health Effects of Electricity Generation From Coal, Oil, and Nuclear Fuel", at page 424, states:

> "The conclusion can thus be drawn that uranium offers lower risk than coal as a fuel, in both the extraction phase and the generation phase."

In conclusion, we believe the rules and regulations promulgated by the Nuclear Regulatory Commission are extremely thorough and insure that the plant design and operation, including plans for radioactive waste management, plant security and emergency response, make the proposed plant safe. The great weight of the evidence on the issue of plant safety overwhelmingly supports the conclusion that the proposed nuclear plant will pose no threat to the health and safety of the citizens of Missouri. There has never been any massive inadvertent release of radio activity from any commercial power plant in the United States. Nor has there been a death associated with the nuclear operations in the commercial energy field. In sum, commercial nuclear power plants have had an enviable safety record in that they have not injured life or property of people outside the plant.

III. **Conclusions of Law**

The Missouri Public Service Commission has arrived at the following Conclusions of Law:

1. Company is a public utility subject to the jurisdiction of this Commission pursuant to Chapters 386 and 393, Revised Statutes of Missouri, 1969.

2. The Commission's jurisdiction in this matter is pursuant to Sections 393.180, 393.200, and 393.170, RSMo 1969, which in pertinent part states:

> (1) No . . . electrical corporation . . . shall begin construction of a . . . electric plant . . . without first having obtained the permission and approval of the Commission.

(3) The Commission shall have the power to grant the permission and approval herein specified whenever it shall after due hearing determine that such construction or such exercise of the right, privilege or franchise is necessary or convenient for the public service. The Commission may by its order impose such condition or conditions as it may deem reasonable and necessary . . .

3. Company is required to provide safe and adequate service at reasonable cost (Section 393.130, RSMo 1969).

4. Orders of the Commission shall be based on competent and substantial evidence upon the whole record. Article V, Section 22, Constitution of Missouri, 1945, and Section 536.-140, RSMo 1969.

5. This Commission's jurisdiction does not extend to issues concerning the radiological health and safety of the proposed nuclear plant. The federal government has been vested with exclusive jurisdiction in this matter and state agencies such as this Commission have been preempted from the field. *Northern States v. Minnesota*, 447 F. 2d 1143 (Eighth Circuit 1971), Affirmed, Memorandum Opinion, 405 U.S. 1035 (1972). The Supreme Court of the United States affirmed the decision of the Eighth Circuit Court of Appeals in which the Honorable M. C. Matthes, Chief Judge, speaking for the court, stated:

> ". . . we hold that the federal government has exclusive authority under the doctrine of preemption to regulate the construction and operation of nuclear plants, which necessarily includes regulation of the levels of radioactive effluents discharged from the plant. 405 F. 2d 1143, 1154."

After careful examination of the *Northern States* case, as well as the other cases cited by Company, Staff and UCCM, it is our conclusion that federal law preempts the field of licensing and regulation of nuclear reactors to the exclusion of the state. Our

conclusion is based in part upon similar conclusions reached by other State regulatory bodies such as the Iowa State Commerce Commission in *Iowa Student Public Interest Group*, 5CCH Atom. En.L. Rep. paragraph 16624 (Docket C3-120, May 4, 1973), the Pennsylvania Public Utility Commission in *Philadelphia Electric Company*, 91 P.U.R. 3rd 321 (Docket C19114, November 9, 1971) and the New Jersey Board of Public Utility Commissioners in *Jersey Central Power and Light Company*, 61 P.U.R. 3rd 395, (Docket 652-60, November 15, 1965).

We believe these decisions reflect sound public policy. We are cognizant of our statutory mandate, of the complexity of nuclear technology, the unique expertise of the Nuclear Regulatory Commission, and the importance of having safety issues considered and resolved by a single federal agency charged by the United States Congress with responsibility for protecting public health and safety. We appreciate the concern expressed by some members of the public at the local hearings as set forth in our findings of fact; however, we believe that regulatory procedures required by the Nuclear Regulatory Commission and other federal agencies are sufficient to adequately protect the safety, health and welfare of the citizens of the State of Missouri. Notwithstanding the legal conclusion reached herein, we are of the opinion based upon our findings of fact that the nuclear plant as proposed is safe. We note, however, that there are certain local safeguards requiring state legislation which should be pursued by the Missouri General Assembly and we shall make recommendations and suggestions to them at the earliest opportunity. These recommendations should include legislation on radiological health, state and regional emergency response, planning power plant siting, environmental surveillance and monitoring, and radioactive waste disposal.

6. This Commission knows of no specific statutory authority to conduct an in camera proceeding or to determine whether information contained in contracts of Company with suppliers

of nuclear related materials and services may or may not be afforded confidential status. We recognize Chapter 610 of the Missouri Revised Statutes, otherwise known as the "Sunshine Law" provides in pertinent part that:

> . . . except as otherwise provided by law, . . . all public meetings shall be open to the public and public votes and public records shall be open to the public for inspection and duplication. Section 610.015, RSMo 1973.

See also the recent decision by the Missouri Supreme Court in *Cohen, et al., v. Poelker,* Sup. Ct. En Banc, filed March 10, 1975, Case No. 58855. This particular information may fall within one of the exceptions to the Sunshine Law, however, there remains no specific statutory authority for in camera proceedings. This Commission has only those powers, duties and obligations as provided by the laws of this State. Furthermore, with regard to the proprietary privilege claimed by Company, this Commission does not have the jurisdiction or authority to determine judicial questions, perform judicial functions, or to declare or enforce any principle of law or equity. *Public Service Commission v. Kansas City Power and Light Company,* 31 S.W. 2d 67 (Mo. En Banc 1930); *Straube v. Bowling Green Gas Company,* 227 S.W. 2d 666 (Mo. 1950); *Lightfoot v. City of Springfield,* 236 S.W. 2d 348 (Mo. 1951). In addition, the Public Service Commission is not a court and has no power to either construe contracts or enforce them. *Katz Drug Company v. Kansas City Power and Light Company,* 303 S.W. 2d 672 (Mo. App. 1959).

We believe Company has provided this Commission with all information necessary to establish the reasonableness of its cost figures, load and financial projections. We do not believe that Company's refusal to supply contractual proprietary information without proper execution of a non-disclosure agreement, in any way makes the record in this case incomplete. All parties to this proceeding had the opportunity to obtain the proprietary

information upon the execution of a non-disclosure agreement. The Commission Staff availed itself of this opportunity and examined Company's fuel contract. The results of the Commission Staff's examination of the terms of this contract are in the record in this case. The terms and conditions of the fuel aspects of the contract are extremely beneficial and advantageous to Company and its ratepayers. We find the record in this proceeding is complete and adequate to support these conclusions.

7. The proposed construction, operation and maintenance of the multi-unit nuclear steam electric generating plant in Callaway County, Missouri is in the public interest and the permission and authority requested by Company should be granted.

8. All motions consistent with the findings and conclusions herein should be granted; those inconsistent herewith, denied.

It is, therefore,

ORDERED: 1. That Union Electric Company be, and is, hereby authorized to construct, operate and maintain a multi-unit steam electric generating plant in Callaway County, Missouri.

ORDERED: 2. That the authority granted herein shall in no way be construed as acceptance by this Commission of cost data or amount of land required to be devoted to plant in service for future rate-making purposes, or specific approval or long range financing of the facility.

ORDERED: 3. That the authority granted herein shall in no way be construed as authority for waiver of compliance with any requirements set forth by the Nuclear Regulatory Commission.

ORDERED: 4. That this Report and Order shall become effective on the 1st day of April, 1975, and the Secretary of

the Commission shall serve a certified copy of same upon each party of record and a copy on all other interested persons.

BY THE COMMISSION,
/s/ ROBERT L. GILMORE
Secretary

(Seal)

Mauze, Chm., Fain,
Reine, Pierce, CC., Concur
and certify compliance with
the provisions of Section 536.080
RSMo, 1969.

Dated at Jefferson City, Missouri, this 14th day of March, 1975.

APPENDIX F

PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

No. 18,117

Application of Union Electric Company

October 29, 1974

Excerpts from transcripts of proceedings. Volume 5, pages 713, 719, 744-45

Chairman Mauzé: Under the procedure that we have adopted, there is one witness who has to testify somewhat out of order. Mr. Newburger, would you call your witness please?

Mr. Newburger: Dr. Kendall, would you please take the stand.

Chairman Mauzé: Would you raise your right hand to be sworn?

(Witness sworn.)

HENRY W. KENDALL,
called as a witness in behalf of the INTERVENORS, UTILITY CONSUMERS COUNCIL OF MISSOURI; ALBERTA SLAVIN, AND OTHER NAMED INDIVIDUALS; COALITION FOR THE ENVIRONMENT, ST. LOUIS REGION, being duly sworn, testified as follows:

Direct Examination by Mr. Newburger,

Q. Would you please state your name and address for the record? A. My name is Henry W. Kendall. I live at 221 Mount Auburn Street in Cambridge, Massachusetts.

* * * * * * *

Mr. Newburger: Excuse me, Mr. Charnoff. Mr. Barvick pointed out that I forgot to move to have his testimony admitted. If I might do that,——

Chairman Mauzé: Dr. Kendall's testimony may be typed into the record as presented. We shall reserve ruling on the admissibility of his testimony until after cross-examination. Were there exhibits?

Mr. Newburger: There were no exhibits.

(Reporter's Note: Following is the prepared testimony of Henry W. Kendall as submitted by affidavit. Numbers embodied in the transcript are the page numbers of the prepared testimony.)

* * * * * * *

Mr. Charnoff: Mr. Chairman, in connection with that motion of Mr. Newburger, I would like to move that Mr. Kendall's testimony in this proceeding be struck. I think it's clear, both from the reading of the full document which consists of 23 pages and the summary presented this morning by Dr. Kendall, that it relates exclusively to safety questions involving plant accidents, storage of wastes and safeguards. All of these matters are subject to the exclusive jurisdiction of the federal government

and particularly the Atomic Energy Commission. There have been numerous cases. I believe, the Chairman made reference to these cases the other morning, in particular, the Northern States Power Company case against the State of Minnesota as well as numerous state agencies and state court holdings including these matters preempting to the exclusive control of the federal government and that state agencies cannot properly consider them.

I would also move at this point to strike the sections of Dr. Kendall's testimony on pages 17 and 18, which incorporate quotations from various newspaper articles. I do recall very strong objections yesterday to references by our witnesses to certain statements or documents by other parties, and in that context we think it's inappropriate for Dr. Kendall to be relying for scientific testimony, which presumably he's offering, on quoted newspaper articles. Now that I have made those two motions to you, sir, I don't know whether you want to hear further argument on them now or even decide the question now. We would be content to have the proceedings go forward and receive this kind of material subject to our motion to strike it on the grounds of preemption primary and secondly in connection with the hearsay use of the newspaper articles. The Commission might well decide to make that decision at a later point in time. If the Commission would like to hear further argument on this matter, we're prepared to argue it in detail at this time.

Chairman Mauzé: I don't think it would do any good at this point to hear any further argument on it. The motion of the Applicant will be taken with the case.

Mr. Charnoff: I would like to indicate it, sir, so we don't have to raise it repeatedly throughout the hearing session, because the safety question may come up either in the form of

other direct or cross-examination, that we have a standing objection throughout this proceeding to the receipt by this Commission of nuclear safety material and to the consideration of it. And so long as the record is clear in that regard, I think we can proceed at this point and wait for a decision at a later time.

* * * * * * *